

The State of Predictive Policing: A Jurisdictional Scan of Predictive Policing in the United States and United Kingdom

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Introduction

As technology continues to advance and change our day-to-day lives, the application of these technologies continue to permeate across various mediums. An example of this is the use of technology in the criminal justice system, and more specifically the use of technology to implement a new type of policing - predictive policing across the globe. Predictive policing is the application of technology and analytical techniques to identify likely targets for police intervention, prevent crime or assist in solving crimes (Perry et al., 2013). Various types of predictive policing programs exist around the world but there are generally four broad categorizations of predictive policing programs: 1) *crime focused programs* seek to identify places and times with an increased risk of crime, 2) *offender focused programs* seek to identify individuals at an increased risk of offending in the future, 3) *identity focused programs*, which match offenders with specific past crimes and lastly 4) *victim focused models* which focus on predicting victims of crimes based on location data and other factors (Perry et al., 2013).

While these models can be beneficial from a crime reduction perspective the ubiquity of these programs in global policing is a cause of concern. Problems with privacy stemming from the algorithms and data predictive policing is based on as well as bias and racism that permeates when police use predictive policing are just some of the problems associated with the implementation of these programs (The Economist, 2018). This jurisdictional scan seeks to provide an overview of two predictive policing models in the United States using Operation LASER in Los Angeles and in the United Kingdom using the Metropolitan Gang Matrix. Furthermore, we seek to provide an analysis of how each program operates as well as a discussion of some of the positive and negative effects associated with each program. We will conclude with an assessment of lessons that can be applied to Canada from both cases.

Case Study #1: PredPol/LASERs in Los Angeles

What is Operation LASER?

Starting in 2010 various cities across the United States have begun implementing police predicting programs. This ranges from smaller scale programs like a predictive analysis program in Richmond, Virginia, to more large scale programs like the Domain Awareness System operated by the New York Police Department. One of the most interesting examples of predictive policing in the United States occurred in Los Angeles. The City of Los Angeles and the Los Angeles Police Department have long been pioneers of predictive policing. The LAPD established one of the first predictive policing programs in the United States and the LAPD had been a fierce advocate for the establishment of predictive policing

programs in the United States well before they introduced their own predictive program (Perry et al., 2013). In 2012 the LAPD announced Operation LASER (Los Angeles Strategic Extraction and Restoration).

Operation LASER was an offender focused predictive policing program in Los Angeles. The program had 4 main goals 1) to remove offenders from specific neighborhoods and areas 2) to restore peace to neighborhoods and communities 3) remove the anonymity of gun offenders and gang members and 4) to reduce gun and gang-related crime in Los Angeles' Newton Division (Uchida & Swat, 2013). The program worked by establishing 'risk,' among individuals and points were assigned based on gang membership, the number of violent crimes committed, and interactions with the police and other factors (Uchida & Swat, 2013). For example, if an individual was a known gang member they would be assigned 5 points and if they had a possession charge they would also receive 5 points under this system (Uchida & Swat, 2013). Those with the highest number of points were signaled out as 'chronic offenders, and placed in a "chronic offenders bulletin," which contained those the program detected most likely to commit violent crimes (Uchida & Swat, 2013). This bulletin was then provided to officers across the LAPD. Operation LASER also used historical data on gun-related crimes and arrests, to map out problem areas in Los Angeles which could be used by police officers and the LAPD to target and focus on (Bhuiyan, 2021). It should be noted that in 2019, Operation LASER was shut down to reassess its effectiveness after the LAPD's oversight agencies questioned the effectiveness of the program (Puente, 2019).

Advantage: Violent Crimes Reduction

At face value Operation LASER achieved its goals of crime reduction and public safety. After the program was established in 2012, the Newton Division of Los Angeles, the area saw a 56% decrease in homicides compared to 2011 numbers and a 59% decrease when compared to 2010 figures (Uchida, 2014). The overall crime rate in Newton has also dropped 19% and the area saw a significant decrease in not only homicides but drug crimes, robberies and property crime (Uchida, 2014).

Disadvantages: Flawed Implementation and its Consequences.

While Operation LASER did have some positives its downsides and flaws led to its demise. The first of these problems is the program's flawed implementation and algorithm. By design Operation LASER's algorithm was flawed. For example, for any interaction one had with the LAPD that resulted in field operation interview being conducted an individual received a point under the chronic offender system, and the more interviews/interactions one has with the police the more points they received (Baek & Mooney, 2020). While individuals can get off the list, if they don't have interactions with law enforcement over extended periods of time, by the nature of the program, law enforcement became encouraged to patrol areas with high levels of police interaction, meaning individuals will likely have increased police interactions creating more patrolling resulting in a feedback loop (Baek & Mooney, 2020).

This becomes problematic when we consider who is most likely to have interactions with the police. Research shows that persons of color are far more likely to have both violent and non-violent interactions with law enforcement (Desilver, 2020). Therefore, by having Operation LASER's design and implementation contingent on police interactions regardless of context or nature, the program and the 'chronic offender bulletin,' will by nature have an overrepresentation of persons of colour. This becomes problematic when we consider that these types of interactions with the police can create distrust between the police and the community creating hostility on both sides (OHRC, 2017). Research suggests that these types of interactions between the police and marginalized groups also have broad societal implications. For example, research shows that as negative interactions/encounters with the police increase, individuals view this as an indication that the system is corrupt because the police act as the most visible forms of state power (Lerman & Weaver, 2014). In some cases this leads to a total removal of all state processes such as voting, meaning that we lose the input of these marginalized individuals in our decision making process which could seek to further marginalize these groups (Lerman & Weaver, 2014). This targeting of certain areas also creates mistrust between communities and the police because residents feel that the police aren't respecting them leading to less inclination to work with the police creating further hostility between the two groups (Bhuiyan, 2021).

Case Study #2: The UK and London's Gang Violence Matrix

What is the Gang Violence Matrix?

In recent years, various regions and cities in the UK have begun piloting different types of predictive policing tools and methods. The most controversial and longest running of these is London's Gang Violence Matrix (GVM). The GVM is a risk assessment tool that was created in 2012 in response to the London gang riots of 2011 (MOPAC, 2018 11). Its purpose was to allow the Metropolitan Police Service (MPS) to identify and risk-assess potential and known gang members across all London boroughs based on violence and weapons offenses and intelligence (MOPAC, 2018 11). This intelligence can include the individual's history of violence from the last three years, the judgment of a local gang unit or a partner organization's assessment of risk of harm (MOPAC, 2018 20). This intelligence generally includes a wide range of corroborated and uncorroborated intelligence (Amnesty International UK, 2018 11) Increasingly, the MPS is also utilizing social media as a way of identifying potential gang members by monitoring the content individuals share for references to gang names, flags or attire linked to gangs (Amnesty International UK, 2018 11).

Individuals included in the matrix are labeled as gang nominals and are ranked as one of the following: red, if determined by the police to be most likely to commit a crime, amber, and green, if they pose the least amount of risk (Amnesty International UK, 2018 2). These score bands determine the subsequent levels of police and partner response that the individuals will be subjected to (MOPAC, 2018 20). Yet the matrix includes not only those who have engaged in violence, but victims of violence as well. The idea behind this is that

being victims increases the risk of them being drawn into serious crime according to the Metropolitan Police Service (Amnesty International UK, 2018 19). Essentially, the idea is to keep track of both offender and victims to marshal the right resources more efficiently and effectively towards the individuals who need it the most to both decrease violent crime and to deter individuals from joining gangs.

Given the decentralized nature of the policing system, each borough in London has their own matrix which is run by local Single Points of Contact (SPOC's). These SPOCs are responsible for updating the matrices and determining which individuals are added and removed from the matrix (MOPAC, 2018 15). Due to this, each borough has their own practices to determine who gets removed or added and partner organizations at the borough level can also put forward their own individuals of interest to the SPOC's (Amnesty International UK, 2018 10).

Advantage: Violence Reduction & Data Gathering

While gang violence represents only a small percentage of overall violent crime levels in London (31 percent of homicides over the 2016-2018 period), it does make up a significant portion of violence resulting in serious injury (MOPAC, 2018 15). Evidently, the creation of a gang targeted predictive policing system is justified given its prevalence in London communities. On the surface, the impact of the Matrix has resulted in reducing these rates, indicating that on some level the system is working as intended (MOPAC, 2018 12). Furthermore, data indicates that individuals who were included in the matrix saw a decrease in the number of offenses over the period of their inclusion. 42 percent of these individuals had received a sanction for an offense in the six months before being included in the matrix, which declined to 39 percent within the first six months of inclusion and finally, decreased to 20 percent once they have been removed from the Matrix (MOPAC, 2018 29). At first glance, the statistics do support the conclusion that the matrix is useful overall for reducing the number of violent offenses and that preventative measures and interventions are ensuring that offenders do not repeat offenses after being taken off the GVM.

Additionally, the structure of this matrix could allow police offers to better understand the gang landscape on a local level. Given that it is decentralized with each borough operating their own matrix, demographic and context-based data could be gathered effectively for each region and then compiled to better understand how gangs operate from borough to borough.

Disadvantage: Decentralized System & Flawed Implementation

Despite a promising framework, London's GVM system has suffered from implementation and monitoring issues. Due to each borough being responsible for all aspects of running their own matrices there are subsequent differences in terms of how each system is configured, how different partnerships are integrated into the risk assessment system and what policies govern the functioning of the matrices (MOPAC, 2018 53). What has resulted from this is a disparate system that has no mechanisms for coordination between the different

borough SPOC's or between the local SPOC's and the SPOC in charge of the overarching London wide matrix that each individual borough matrix feeds into. This has prevented the creation of a single, unifying set of rules and regulations on how and how often to add and remove individuals from each matrix. Interviews with officials from borough gang units in London have indicated that there was no agreed upon set of best practices on how to accomplish this (Amnesty International UK, 2018 27).

Weak implementation and monitoring have led to the unauthorized creation of informal lists of gang associates at the local level that retains the information of individuals even after they have been removed from the GVM (Denham, 2018 9). Further, because there is no coordinating mechanism or method of consultation between boroughs and SPOC's no policies have been created to govern, monitor, or restrict the use of these lists (Denham, 2018 9). The decentralized nature of the system essentially discourages the implementation of a fair and coherent approach to predictive policing and consequently encourages a culture of opaqueness rather than transparency

Disadvantage: Biased Dataset

One of the common criticisms of predictive policing software is that “algorithms that are trained on police data may replicate and, in some cases, amplify the existing biases inherent in the dataset” (Babuta & Oswald, 2019 12). In the case of the GVM, London has long had and continues to have a culture of racial discrimination towards people of colour in the police force (IOPC, 2022). This discrimination has led to people of colour being overrepresented in the GVM, with them making up 78 percent of the total amount of individuals included in the matrix (MOPAC, 2018 59). This is especially troubling because many of the indicators used to identify gang members tend to reflect elements of youth and urban culture that do not have anything to do with gangs (Amnesty International UK, 2018 3). The implication here is that a high proportion of people of color who are in the matrix likely have not committed any violent offenses. This overrepresentation in the GVM has resulted in a disproportionate number of stop-and-searches targeted at people of color compared to white populations, with black people being four times more likely to be stopped by police officers than white people (MOPAC, 2018 35). This creates a cycle where trust between black communities and the police is continuously damaged. For example, only 63 percent of black Londoners believed that the police treat everyone fairly, compared to the 76 percent average (MOPAC, 2018 57). This distrust will likely increase the probability of violent interactions between the two groups which will result in the further marginalization of an already marginalized group in London society.

The data set used by the GVM was also heavily biased towards youth between the ages of 12-24 (80 percent) (Amnesty International UK, 2018 13). This is an issue because being included in the matrix comes with an automatic stigma and suspicion of involvement with violent crime which tends to follow individuals and affect the way they are treated in society (Amnesty International UK, 2018 18). Even if they have a green score, meaning that they committed no crimes, there have been reports that practitioners and service providers in fields like healthcare or social work have changed their treatment of individuals once they

learned that they were on the matrix (Amnesty International UK, 2018 18). The situation is worsened by the fact that GVM data is shared with several “non-police agencies including, Housing, Department of Work and Pensions, Job centers” and other local groups (Amnesty International UK, 2018 20)”. Given the level of stigmatization facing individuals with this score it is not unreasonable to assume that these organizations feel the same towards individuals in the Matrix. Consequently, children and young adults are likely to face reduced social mobility as a result since the stigmatization may impact the kind of employment they are able to pursue, their education options as well as the neighborhoods that they will be able to purchase a house in.

Key Takeaways for Canada

While predictive policing is relatively new in Canada’s its implementation by various law enforcement agencies is a cause for concern. As of 2020 many of the country’s largest law enforcement agencies including the Toronto Police Service and the RCMP use some form of predictive policing, emulating the forms described earlier in this paper (Kenyon, 2021). Like the Gangs Matrix and Operation LASER, police departments in Canada justify the use of these controversial programs due to a perceived benefit of increased public safety but despite this, the negative effects of predictive policing should be taken into consideration as these programs expand in Canada (Kenyon, 2021).

As discussed previously, a variety of factors complicate the use of predictive policing by law enforcement agencies in Canada. Issues of biased data sets, privacy and flawed implementation continue to damper the success of predictive policing and have created concern amongst the most vulnerable in Canadian society such as Indigenous Cxanadians and Black Canadians. Despite a recognition of this criticism by law enforcement agencies the proliferation of these programs continues to expand rapidly (Kenyon, 2021). In order to fulfill Canada’s commitments of a fair criminal justice system that works for all, Canadian law enforcement must consider the consequences of predictive policing when deciding what the future of these programs is in Canada.

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