

High-tech policing coming to Baltimore; Model uses computers; to forecast, prevent crime

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The researchers in California started with a question: Can algorithms that predict earthquake aftershocks be used to forecast crime?

The answer they found led to advances in predictive policing, a futuristic approach that uses data analysis and artificial intelligence to interrupt crimes before they are committed. Predictive policing has won over police chiefs around the country - and stirred debate among defenders of civil liberties.

Now Mayor Catherine E. Pugh is bringing an architect of the strategy to Baltimore.

Sean Malinowski, a deputy police chief in Los Angeles, has built a national reputation as a forward-thinking commander. Part statistician, part crime fighter, he has spent the past year helping Chicago police open high-tech "nerve centers" in violent neighborhoods.

Inside the centers, computers predict retaliatory shootings and transmit reports of gunfire to patrol officers. Those reports hit officers' cellphones an average of three minutes before the first 911 call, Chicago police spokesman Anthony Guglielmi said.

"It allows the district commander to be incredibly nimble and deploy his resources much faster," said Guglielmi, a former Baltimore police spokesman. "We started seeing almost immediate success."

Nine hundred fewer people were shot last year in Chicago than the year before.

Baltimore suffered 343 killings in 2017, a per-capita record. It was the third straight year of more than 300 homicides. To stanch the violence, Pugh and Police Commissioner Darryl De Sousa plan to open nerve centers in East and West Baltimore.

Malinowski is due in Baltimore by the end of the week, Pugh said. She said the nerve centers could open in about a month. A Department of Justice grant will pay for the work.



The Los Angeles Police Department did not make Malinowski available for an interview.

In 2016, as police departments were embracing predictive policing, the American Civil Liberties Union, the NAACP and more than a dozen other advocacy groups expressed concern that it concentrated officers in neighborhoods that were already over-policed. The month that the groups released their statement, the Department of Justice issued its scathing report that found Baltimore police routinely conducted unlawful stops, used unnecessary force and targeted minorities.

David Rocah, an attorney with the ACLU of Maryland, says he is wary of predictive policing in Baltimore.

"It's hard to understand this approach to policing as anything other than a suppression strategy, where you flood certain areas with officers and ask them to stop as many people as possible," he said. "That's the kind of policing that has gotten Baltimore in trouble."

Malinowski's visit was planned before Pugh fired Commissioner Kevin Davis this month and appointed De Sousa to succeed him. The mayor said six months ago that she was considering enlisting consultants behind crime-fighting plans in Los Angeles and Chicago. Malinowski is part of a brain trust of commanders collaborating in Los Angeles, Baltimore, Chicago, New York and other cities.

He's counseled Baltimore officials before. Daniel Webster, director of the Johns Hopkins Center for Gun Policy and Research, traveled to Chicago last summer to observe the nerve centers. Malinowski's team presented their methods.

"His work has greatly changed how things are done in Chicago, and the early signs are encouraging," Webster said. "I think it's significant ... but I don't want to say, 'Oh, this will certainly transform everything.' I think that remains to be seen."

Predictive policing is a next step in the established "hot spot" field of police work, in which commanders send additional patrols to areas of increasing crime. Predictive policing, however, goes further, in integrating other data - such as weather patterns, bus routes, paydays, school dismissals - to pinpoint areas as specific as a single street corner where crooks might strike next.

Chicago police advanced the methods still further by trying to predict the next assailant or victim. They run arrest records, ages, gang affiliations and other data through a computer algorithm to rank people. The names are kept confidential, but officers knock on their doors to warn those people likely to shoot or be shot.

Los Angeles began using the software PredPol about seven years ago. Researchers Jeff Brantingham and George Mohler developed the artificial intelligence program by applying earthquake models to crime.

"Criminological research has shown that crime can spread through local environments via a contagion-like process," they wrote in the Journal of the American Statistical Association in 2011. "Similarly, the occurrence of an earthquake is well known to increase the likelihood of another earthquake nearby."

Commanders in Los Angeles used PredPol first to forecast burglaries and car thefts. Then they expanded to violent crimes. The department has posted some predictions online to alert neighbors. They have called the software a "force multiplier."

"We are playing probabilities and putting officers in the right place at the right time," Malinowski told NBC in 2014.

Andrew Guthrie Ferguson, a law professor at the University of the District of Columbia who has tracked the rise of predictive policing, described it as "more of a scalpel approach than brute force." But he warns that crime prediction can become a "self-fulfilling prophecy." More arrests in poor and minority neighborhoods attract more police - and result in even more arrests.

Chicago was gripped by gun violence - more than 750 killings in 2016 - when Malinowski began consulting the department early last year. He helped police open nerve centers in two of the city's most violent districts. Since then, nerve centers have opened around the city.

Chicago police use a prediction software called HunchLab. Like PredPol, it crunches data to identify likely areas of retaliatory violence. Commanders use the information to direct patrols. Coupled with the gunshot cellphone alerts, the new methods have helped officers to suppress the bloodshed.

Killings in Chicago fell 16 percent last year to 650; shootings fell 22 percent, Chicago Police Superintendent Eddie Johnson said at a conference attended by Davis.

De Sousa said he was hopeful the nerve centers could bring some peace to Baltimore.

"We can go a couple of days, we can go a couple of hours, we can go half a day without any violence," De Sousa said. "Then we have one incident that kind of triggers several other incidents in a four-hour period."

He said Malinowski already has completed an assessment of the Baltimore Police Department's needs. City officials haven't decided yet which predictive policing software Baltimore will use.

Baltimore has tested predictive policing before. In early 2012, the department launched a six-week study to explore whether predictive methods could forecast robberies in Southwest Baltimore. The results fell short of their expectations. Nearly 75 percent of sergeants and patrol officers said the forecasts weren't helpful, according to an analysis by Christine Eith, a Johns Hopkins sociologist.

De Sousa has revealed several new strategies in his first days on the job. He unveiled "Operation Blitz," an effort to flood hot spots with patrols. He also announced plans to form a youth division to focus on teenage crime and to launch a constitutional policing unit.

Bloomberg Philanthropies pledged \$5 million last month to buy surveillance cameras, license plate readers and gunshot detection software to cover 10 square miles of East and West Baltimore - equipment that will expand the department's data-collecting capabilities.

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