

Can science predict gang killings?

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A study led by Michigan State University public health researcher April Zeoli found that gang killings move systemically through a community, similar to disease. Credit: Michigan State University

Gang slayings move in a systematic pattern over time, spreading from one vulnerable area to the next like a disease, finds a groundbreaking study by Michigan State University criminologists and public health

researchers.

Their findings, published online in the *American Journal of Public Health*, could help pave the way for communities to one day anticipate and ultimately prevent gang-related homicides and other violent crimes.

There were 2,363 gang-related killings in the United States in 2012, the highest number in at least six years, according to the latest available estimates from the Department of Justice. Gang membership also increased, to 850,000 in 2012 from 788,000 in 2007.

"We've shown that there is a potentially systematic movement of gang-related homicides," said April Zeoli, associate professor of criminal justice and lead investigator on the study. "Not only that, but in the places gang homicides move into, we see other types of homicide - specifically, revenge and drug-related killings - also clustering. Taken together, this provides one piece of the puzzle that may allow us to start forecasting where homicide is going to be the worst - and that may be preceded in large part by changes in gang networks."

Gang Related Homicides (n=42)

Newark, New Jersey



MSU researchers found that gang slayings move in a systematic pattern, which could help prevention efforts. In Newark, N.J., from 2002-2005, there were four contiguous clusters of gang-related homicides that started in central Newark and moved roughly clockwise.

Using police data from Newark, New Jersey, Zeoli and fellow MSU researchers Sue Grady, Jesenia Pizarro and Chris Melde were the first to show, in 2012, [that homicide spreads like infectious disease](#). Similar to the flu, homicide needs a susceptible population, an infectious agent and a vector to spread. (The infectious agent could be the code of the street -

i.e., guarding one's respect at all cost, including by resorting to violence - while the vector could be word of mouth or other publicity, Zeoli said.)

With the new study, the interdisciplinary team of researchers analyzed the Newark data to gauge whether specific types of homicide cluster and spread differently. In addition to gang-related murders, the researchers looked at homicide motives such as robbery, revenge, domestic violence and drugs. These other motive types were not directly connected to gang participation.

The study found that the various homicide types do, in fact, show different patterns. Homicides stemming from domestic violence and robberies, for example, show no signs of clustering or spreading out.

Gang-related killings were the only type of homicide that spread in a systematic pattern. Specifically, there were four contiguous clusters of gang-related homicides that started in central Newark and moved roughly clockwise from July 2002 through December 2005.

Revenge and drug-motivated [homicides](#) unrelated to gang activity did not spread out, but they did cluster. Interestingly, they clustered in the same general area as the [gang](#) murders.

"By tracking how homicide types diffuse through communities and which places have ongoing or emerging homicide problems by type, we can better inform the deployment of prevention and intervention efforts," the study says.

Provided by Michigan State University

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