

Violent crime raises blood pressure even among those living in safe areas

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A spike in Chicago crime was associated with a relative increase in blood pressure among people who lived in safe neighborhoods, according to preliminary research to be presented in Chicago at the

American Heart Association's Scientific Sessions 2018.

A study of 53,402 adults revealed that in Chicago in 2015, a [violent crime](#) surge that included increased homicide, assault and robbery, was associated with a 9 percent higher odds of increased [blood pressure](#) among residents living in low-[crime](#) communities compared to those living in high-crime areas. The results suggest that the environment affects heart health, and that violent crime happening elsewhere can affect others living in a city, even if individuals are not directly exposed to crime.

Previous research has shown a relationship between crime exposure and high blood pressure, but researchers wanted to evaluate whether crime had a broader effect on heart health and if stress responses varied between neighborhoods.

Researchers used information from the Chicago Police Data Portal and matched [violent crime rates](#) to home addresses of patients from nearby outpatient clinics. Violent crime rates spiked in 2015 and continued to rise in 2016, before declining in 2017. Researchers decided to focus on this surge and analyzed health records from this period, which included patients' blood pressure readings. More than 54 percent of the patients in the study were black, nearly 64 percent of them were female, and the average age was 48.

Overall, not surprisingly, low-crime communities had lower rates of high blood pressure (22.5 percent) compared with high-crime communities (36.5 percent), and rising violent crime rates were associated with 3 percent higher odds of increased blood pressure. However, what did surprise researchers was the correlation between the surge in violent crime and a relative surge in high blood pressure among people living in safe areas.

The findings suggest that the stress of increased crime has far-reaching effects, and efforts to reduce and prevent violence may improve public health of the entire city.

"I saw anecdotal evidence of this," said lead study author Elizabeth Tung, M.D., an instructor of medicine at the University of Chicago. "I had friends living in low-crime neighborhoods who were extremely anxious about rising crime rates in the city. Crime, and particularly violent crime, is a unique stressor because people prioritize safety. Safety is second in Maslow's hierarchy of needs, but in many ways, it can get in the way of more basic needs, like access to healthy food."

Based on these findings, researchers plan to look at specific mechanisms connecting exposure to violent crime and [high blood pressure](#), and how crime may affect self-care and disease management. For example, patients may be afraid to refill prescription medications and forgo treatment for a few days if they can't get to the local pharmacy safely. Alternatively, individuals may isolate themselves from friends and family or avoid going out to grocery shop because of concerns for personal safety.

Provided by American Heart Association

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