

Penn Physician Shows Green Spaces, Trash Cleanup, Fixing Abandoned Houses Reduces Urban Gun Violence

By Bonnie Eisenfeld

Eugenia South, MD, Assistant Professor of Emergency Medicine at Penn, is the lead author of a large-scale research study designed to test whether neighborhood-improvement interventions would reduce gun violence. In the first phase of a multi-year study, randomly selected vacant places received *greening, trash removal only, or no intervention*. Greening included planting new grass and trees, installing a low wooden fence, trash removal, and regular maintenance. In communities with new green spaces and in communities with trash removal only, gun violence went down significantly. The reduction was greatest where residents live below the poverty line.

Participants living in the areas that received both interventions reported feeling safer and went outside more to socialize with neighbors. Those living in the areas that received new green spaces reported feeling less depressed and worthless compared to those with no intervention.

In the second stage of the study, abandoned houses in randomly selected neighborhoods received either a full remediation, including cleaning the outside of the house and yard and adding new doors and windows; trash cleanup only; or no intervention. In unpublished findings, neighborhoods receiving full remediation had a significant reduction in gun violence.

The research study started in October 2011, with 442 adults living in Philadelphia neighborhoods near 541 vacant lots. By the end of the study, in April 2017, 342 participants remained. On average, participants were 45 years old, slightly more than half were female, and almost half had a family income of less than \$25,000. Some of the findings were published in July 2018 in *JAMA Network Open (Journal of the American Medical Association)*, and reported by NPR, the *Philadelphia Inquirer*, and the *Washington Post*, as well as other national and international media. Findings from both phases of the study are included in Dr. South's article in the *New York Times*. <https://www.nytimes.com/2021/10/08/opinion/gun-violence-biden-philadelphia.html>

Dr. South and her team recently received a \$10 million grant from the National Institutes of Health to study the impact of both environmental and economic interventions on reducing health disparities in Black Philadelphia neighborhoods. The environmental interventions will include tree planting, vacant-lot greening, trash cleanup, and rehabilitation of dilapidated abandoned houses. Economic interventions will include food, employment, and prescription-drug assistance; financial counseling; tax preparation; and emergency cash. The randomized controlled study will enroll 720 adults in 60 neighborhoods.

Neglected Black neighborhoods in Philadelphia have crumbling houses, trash build-up, no green space, and declining economic

opportunity. According to a 2021 study by The Commonwealth Fund, Black people live fewer years, on average, than white people, are more likely to die from treatable conditions, and are at higher risk for many chronic health conditions, including diabetes and hypertension.

The new study will find out whether investment in Black neighborhoods will correlate with improved health of residents. Read more here: *Penn Researchers to Study the Impact of Environmental and Economic Interventions on Reducing Health Disparities in Black Philadelphia Neighborhoods with Nearly \$10M Grant - Penn Medicine*

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Dr. Eugenia South is lead author of a research study on reducing gun violence through greening, trash removal, and fixing houses.