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ANALYSIS

Creating Safe And Healthy Neighborhoods With Place-Based Violence Interventions

ABSTRACT Violence is a leading cause of death and disability in the United States and abroad, with far-reaching consequences for individuals and communities. Interventions that address environmental and social contexts have the potential for greater populationwide effects, yet research has been slow to identify and rigorously evaluate these types of interventions to reduce violence. Several urban communities across the US are conducting experimental and quasi-experimental community-based research to examine the effect of place-based interventions on violence. Using examples from Philadelphia, Pennsylvania; Flint, Michigan; Youngstown, Ohio; and New Orleans, Louisiana, we describe how place-based interventions that remediate vacant land and abandoned buildings work to reduce violence. These examples support the potential for place-based interventions to create far-reaching and sustainable improvements in the health and safety of communities that experience significant disadvantage. These interventions warrant the attention of community stakeholders, funders, and policy makers.

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Violence is a leading cause of death and disability both in the United States and abroad.¹ It has short- and long-term consequences for those directly involved and the people and places around them.² A public health approach recognizes that interventions that address the environmental and social contexts have the potential for greater populationwide effects than those that focus only on individual treatment.³ Yet research has been slower to identify and rigorously evaluate violence-reducing interventions of the former type.⁴ Several urban communities in the US are conducting or have completed experimental and quasi-experimental community-based research to examine the effect of place-based interventions on violence. Using examples from Philadelphia, Pennsylvania; Flint, Michigan; Youngstown, Ohio; and New Orleans, Louisiana, we describe how the

remediation of vacant land and abandoned buildings works to reduce violence. We conclude with a discussion of the research and application considerations for furthering this and similar types of place-based work.

Background

Many places across the US, especially cities, have a similar history: a significant period of growth and prosperity coinciding with industrialization after World War II, followed by a period of sustained population decline, job loss, and disinvestment.⁵ This history, coupled with discriminatory lending and community investment practices that are emblematic of structural racism, has led to many of the physical, social, and economic challenges that deindustrialized cities still struggle with today.⁶ Cities, and specific neighborhoods within them, experience some

of the highest rates of community violence, concentrated poverty, racial segregation, and disadvantage in the country.^{7,8}

A consistent marker of population out-migration and disinvestment from cities is an overabundance of vacant and abandoned properties. A sizable body of qualitative research documents that residents identify vacant and abandoned properties in their neighborhoods as a symbol of disinvestment and a leading structural factor that contributes to the problems with navigation, safety, and health that they experience daily.⁹⁻¹¹ Residents and ethnographers describe a direct connection between neglected properties and community well-being, physical and mental health, and crime.⁹ For example, ethnographers document witnessing vacant lots attracting illegal activity because decaying structures and overgrown lots provide cover for people engaging in illicit activities such as drug sales.¹⁰ These activities have the potential to lead to more serious crimes such as gun violence that indiscriminately affect everyone in the neighborhood. As one Philadelphia resident put it, “Bullets ain’t got no names.”^{9(p418)} Residents are fearful of crime, and some change routine behaviors to avoid what they consider to be unsafe places. The lived experience described by community residents is also supported by the findings of quantitative research. Increasing levels of vacancy are associated with an increased risk of assaultive violence.¹² Studies of foreclosure and crime have shown a sizable increase in violent crime rates after a home becomes vacant—an effect that increases with the length of the vacancy.¹³

Theory

The idea of place-based remediation to prevent violence has been guided by community input; ethnographic research; and multiple theories such as broken windows,¹⁴ human territorial functioning,¹⁵ situational crime prevention,¹⁶ and busy streets.¹⁷

The theory of broken windows,¹⁴ a metaphor for disorder and crime, suggests that small, visible signs of disorder or decay such as graffiti and loitering can send a signal that a neighborhood is uncared for, creating fear and withdrawal among residents—which in turn results in there being fewer eyes on the street. Fewer people going outside and being engaged in community life creates the perception that these places are optimally available for engagement in more serious forms of crimes. Over time, as the cycle is perpetuated, neighborhoods continue to spiral into decay.

Human territorial functioning¹⁵ refers to the

interconnected link between norms of who has access to spaces, what activities are allowed, and who has control in those spaces. Vacant lots and abandoned spaces may promote violence by discouraging residents from having positive social interactions.¹⁵

Situational crime prevention connects to these theories by explaining how crime can be prevented by changing the situations that offer opportunity for offenders.¹⁶ Vacant lots and abandoned houses may increase anonymity in the streets, as fewer neighbors are outside, and may signal less ownership or guardianship of spaces. According to situational crime prevention theory, reducing the opportunity for anonymity and increasing the sense of ownership and surveillance of public spaces may deter potential offenders.

From a public health perspective, the busy streets theory suggests a process whereby addressing the source of physical disorder in public spaces—for example, by cleaning up vacant spaces or tending to abandoned buildings—creates opportunities for positive social interaction, reducing fear, increasing feelings of safety among residents, and ultimately reducing violence.¹⁷

Collectively, these theories explain how signals in the built environment affect people’s perceptions of order and the potential for crime. The theories provide a basis for understanding the cyclical relationship between disinvestment and violence, pointing to physical decay and disorder as signals that spaces are untended and available sites for violent activity. Recent experimental evidence has lent strong support to these theories, showing that decay and disorder have contagious effects both among places and between individuals¹⁸ and produce negative outcomes such as violence via visible and tangible means of injury—namely, firearms.¹⁰

Place-based interventions operate through the social, economic, and biological pathways that affect the health and safety of communities. Blight and neighborhood disinvestment impede social cohesion and integration, which are important protective factors against morbidity and mortality.^{19,20} Furthermore, abandoned spaces can place a strain on local economies, property values, and social service systems.²¹ This erosion of community social and economic resources directly threatens the health and safety of community members.

Finally, an emerging literature provides evidence of the direct physical and mental health effects of place-based remediation via biological pathways.²²⁻²⁴ This research is grounded in the theories that underpin the psychological and physiological stress response, in which chronic

stressors such as environmental disorder can lead to long-lasting inflammatory changes and dysregulation of physiologic functions.^{22,23} Place-based remediation presents an opportunity for population-based intervention to address the drivers of community health through the multiple pathways described above, providing the potential for greater health and safety improvements than individualized interventions can achieve. Place-based solutions also often work better and have greater likelihood of being both scalable to additional places and sustainable over longer periods of time because they are, in effect, default strategies or “nudges” that ask for few if any actions to be completed by would-be beneficiaries while still providing them with health and safety benefits.^{3,25,26}

Evidence

Observational studies of place-based interventions are a good intermediate step toward establishing promising approaches, but they are limited in their ability to isolate causal effects.^{27,28} Given the high standards of the current evidence-based policy climate,^{27,29} experimental and quasi-experimental studies are critical to demonstrating the potential of place-based violence interventions.

A recent review noted a lack of experimental research testing the effects of place-based violence interventions that change neighborhood environments.³⁰ The authors concluded that the most consistent evidence in support of effective environmentally focused, place-based violence interventions comes from studies of housing and blight remediation of buildings and land and that a smaller, emerging body of evidence supports reducing alcohol availability, improving street connectivity, introducing street lighting in public housing, and providing green housing environments to reduce violent crimes.^{30,31} Our collective experience suggests that the scarcity of these types of experimental studies is likely due to the ethical, practical, and logistical challenges associated with conducting them.³² Despite these challenges, experimental research is necessary to build a strong evidence base.

The following examples describe the context, interventions, and results of several quasi-experimental and experimental studies that we have conducted. These studies specifically focus on stabilizing vacant land or abandoned housing to reduce violence. Each is similar in that they are all grounded in the same theories and situated in cities with high rates of vacancy, poverty, and other markers of distress. However, each study makes a unique contribution to the understanding of the effects of these interventions,

which vary in place, program approach, and population effects.

PHILADELPHIA Since 2003 the Pennsylvania Horticultural Society has led a citywide “clean and green” program to stabilize some of the more than 50,000 vacant spaces throughout the city of Philadelphia. Similar to other vacant land stabilization programs across the country, this program had its roots in a local, community-led effort in a single neighborhood, and over time it grew, adapted, and expanded.³³ In the basic model, local landscapers are contracted to remove trash, grade the land, plant grass and trees, and install a low wooden post-and-rail fence that allows people to enter the space but also deters illegal dumping. Landscapers return multiple times a year for maintenance. Results of quasi-experimental studies that used municipal and administrative data from the Pennsylvania Horticultural Society and a biennial household health survey to test the effects of the “clean and green” program on crime and residents’ perceptions showed that vacant lot greening was associated with reductions in gun assaults, vandalism, and self-reported stress and with increases in self-reported physical activity—which suggests that these basic programs had the potential to reduce neighborhood violence.³⁴

A second example is a study of the effects of abandoned building remediation on crime. In 2010 Philadelphia passed an ordinance that requires owners of abandoned buildings to install working doors and windows in all structural openings and clean the facades. Results of a quasi-experimental study comparing homes that complied with the ordinance to similar non-compliant homes found a reduction in assaults (19 percent), gun assaults (39 percent), and nuisance crimes (16 percent) around remediated buildings.³⁵

While both studies benefited from comparison groups that did not receive an intervention, they lacked random assignment—a key component of experimental research that equally distributes characteristics among groups of units, resulting in greater confidence that outcome differences are because of the intervention, not some other factor.³⁶ These findings justified the need for experimental studies to test the effects of both vacant lot greening and housing remediation programs in Philadelphia. Results of a randomized trial of vacant lot greening in Philadelphia found that residents living near remediated lots reported reduced perceptions of crime, vandalism, and safety concerns when going outside their homes and an increased use of outside spaces for relaxing and socializing. Moreover, results showed changes in police-reported outcomes, including significant reductions in crime

overall as well as in gun violence, burglary, and nuisances in neighborhoods with income below the poverty line.¹⁰ Additional studies showed that these interventions were particularly important to reducing gun violence and had sustained effects and good returns on investment.^{37–39}

A citywide randomized trial of the effects of abandoned housing remediation on substance abuse (alcohol- and drug-related crimes) and violence outcomes is now under way. A total of 320 randomly selected abandoned houses, stratified into four geographic sections of Philadelphia, have been randomly assigned to three trial arms: installing working windows and doors on abandoned houses and cleaning up graffiti and trash, cleaning up graffiti and trash around abandoned housing, and no fixes to abandoned houses (the control arm). Longitudinal outcomes on and near the abandoned houses are being measured in the eighteen months before and after the intervention, and analyses will be done to determine whether abandoned housing remediation is a cost-effective approach to reducing substance abuse and firearm violence.

YOUNGSTOWN Youngstown has lost approximately 60 percent of its population since the 1930s,⁴⁰ resulting in nearly 24,000 vacant properties as of 2010.⁴¹ In 2005 the city planning commission adopted a comprehensive citywide revitalization plan that had been developed during a three-year community-engaged planning process. The Youngstown Neighborhood Development Corporation (YNDC) was established to implement the plan. YNDC employed two vacant land reuse programs, Lots of Green (LOG), which was a “clean and green” program implemented in selected high-priority neighborhoods, and LOG 2.0, a community-led program wherein vacant land reuse is initiated and maintained by community groups through a competitive application process. YNDC awarded financial and technical support to residents, groups, and organizations that proposed revitalization projects showing strong community benefit, such as community gardens, urban farms or orchards, native plantings, athletic fields, and putting greens.

LOG 2.0 presented an opportunity to learn about the effects of vacant land stabilization that varied by intervention and approach. Results of a quasi-experimental study showed reductions in felony assaults (85 percent), burglaries (24 percent), and robberies (69 percent) near remediated vacant lots, compared to blighted vacant lots. In multiple analytic models, the basic YNDC lot stabilization intervention was associated most consistently with reductions in burglaries, while the community land reuse intervention showed more consistent reductions in assaults.⁴¹

Even simple strategies such as basic cleaning and mowing demonstrate promise for violence reduction.

FLINT Since the 1960s Flint has lost over 50 percent of its population,^{42,43} leaving the city with about 24,000 vacant properties.⁴⁴ In 2004 the Genesee County Land Bank began stabilizing neighborhoods and revitalizing Flint by facilitating the reuse of the 15,000 residential, commercial, and industrial properties that it had acquired through the tax foreclosure process. Its “clean and green” program supported community groups and organizations in cleaning, maintaining, and beautifying vacant properties. The groups were chosen through a competitive process, with selection based on their previous experience with community work, inclusion of youth, plans for the space, and ability to leverage resources. Each group was provided with a stipend and required to mow the vacant lots every three weeks. Some groups developed gardening projects in addition to their mowing commitment, but many of the properties were simply mowed by the Land Bank’s professional crews.

A study that compared changes in crime outcomes around vacant lots that received routine maintenance (that is, mowing, weeding, and gardening) by local community members to those around blighted vacant lots found that residents’ efforts to improve vacant lots was associated with a 40 percent reduction in total violent crime and assaults.⁴⁵ These results supported the notion that community engagement in vacant land stabilization could be a key ingredient to violence reduction. Moreover, these findings are consistent with the work in Philadelphia and showed that even simple strategies such as basic cleaning and mowing demonstrate promise for violence reduction.

A randomized community trial is under way in which vacant lots in Flint are being assigned to one of three trial arms: greening activities with youth and adult resident engagement; greening with no neighborhood residents involved (professional greening); and no intervention. Violence outcomes and residents’ perceptions of their communities are being measured using police and hospital data and resident surveys across

Place-based interventions frequently arise from grassroots efforts that develop over time.

the three trial arms. Preliminary results indicate important changes in crime rates over time: Both the professionally mowed and community-engaged intervention sites had significantly greater declines in four-month crime rates in 2015 and 2016, compared to the sites that received no intervention, but the community-engaged site had a lower level of crime over time than either the professionally mowed or control-conditions site.⁴⁶ The results held even after population size and neighborhood disadvantage were accounted for. Participants in community improvement projects reported that participating in greening and revitalization projects enhanced their sense of community and hopefulness about their neighborhood and inspired other residents to participate in and expand revitalization activities. Respondents also mentioned seeing more positive street activity than before the revitalization occurred.⁴⁷

NEW ORLEANS By 2004 the population of New Orleans had declined by nearly 30 percent from its peak in the 1960s, which resulted in more than 26,000 properties being vacant.^{48,49} When Hurricane Katrina made landfall in August 2005, the problem only got worse. By 2012 the city had regained only 76 percent of its population from 2000, and the number of blighted properties had grown to more than 43,000, accounting for more than one-quarter of the city's housing stock.⁵⁰

Despite the associated reductions in violence reported by other cities, a quasi-experimental, difference-in-differences analysis of the blight remediation program instituted in 2014 showed no significant differences between remediated and control lots in levels of violent, property, and domestic crimes from pre to postremediation, which suggests that further research is warranted to better understand the unique differences in this context.⁵¹ A randomized controlled trial, the Healthy Neighborhoods Project, is under way to test the impact of blight remediation on youth and family violence, well-being

and health interconnectedness, sense of community and sense of safety, and civic engagement. The study, located in four sections of New Orleans with high rates of violence, includes three trial arms: cleaning and greening of vacant lots, cleaning and greening of properties and structural repairs to abandoned houses, and a no-intervention control. The study will also examine whether the blight reduction efforts are moderated by community-level buffers (for example, fewer alcohol outlets or higher collective efficacy).

Multiple data sources are being used to examine the intervention effect, including administrative data (for example, from local law enforcement, hospital admissions, Department of Children and Family Services, and 911 and 311 calls); information on a longitudinal cohort of approximately 400 residents who reside near the trial arms; and qualitative data from key-informant interviews, focus groups, and ethnographic observations.

Preliminary qualitative data reveal emerging themes, including awareness of the connection between blight, violence, and substance use; concern about the lack of affordable housing; the importance of neighborhood conditions for health; the need for sustainable solutions to blight; and the need to involve the youth in these communities and improve the sense of community. Community partners played an important role in determining data collection and research design and will help communicate and deliver translated research findings to the residents and the city, as well as thinking about longer-term solutions.

Discussion

Communities across the country are implementing programs and policies whose primary purpose is not violence reduction but that have the potential to reduce violence by addressing important environmental and social contexts. Those programs and policies, theoretically relevant to violence outcomes, should be evaluated as potential interventions. Greening vacant lots and remediating abandoned housing are two examples that suggest the potential for reducing violence in underserved communities with high rates of vacant property. Still, many questions remain unanswered with regard to the effectiveness of interventions with different characteristics (for example, simple versus complex; frequency, or how often they occur; and density, or how close they are to each other), different types of outcomes (such as personal, property, and domestic violence), and different contexts (for example, large versus small cities, varying

climates, and varying types of housing markets). Experimental, place-based research faces ethical, practical, and logistical challenges but is necessary to demonstrate the effectiveness of such programs and policies. Some of these challenges are related to acceptability, resources, and unintended consequences.

ACCEPTABILITY The use of random assignment to intervention or control groups is often viewed as unacceptable in real-life settings. The stock of vacant land and properties far exceeds the capacity of each of the four cities described above for stabilization and maintenance. This presents a unique opportunity for experimental research: Control sites could become eligible for intervention after a period of study observation, which would provide greater acceptability to the community.

Place-based interventions frequently arise from grassroots efforts that develop over time. With community engagement and input, cities are more likely to develop programs that are acceptable to local residents and thus have the potential for greater and more sustained effects.⁵² The “clean and green” program implemented in Flint by the Genesee County Land Bank is one such example. Early results suggest that resident engagement could have a greater impact than professional greening on reducing violence, yet the program’s sustainability is still unknown.

RESOURCES Resources are often scarce when it comes to conducting large-scale, place-based research projects. Municipal resources for basic services are also limited, particularly in communities with high levels of poverty. Academic, community, and municipal partnerships allow communities to leverage rather than compete for resources and build a set of evidence-based best practices.

Studies of place-based interventions use administrative data such as code enforcement citations, building permits, vouchers, and property inventories from local municipalities and community organizations to identify the need and select units of analysis (for example, buildings, structures, or vacant lots) and locations to be included in testing the efficacy of place-based interventions.⁵³ The accuracy and completeness of these data sets is dependent on, among other things, the administrative resources available for data collection and maintenance. Though secondary data present limitations for research, land banks, universities, and other local institutions can help build capacity for data collection. Some cities are also beginning to implement artificial intelligence and machine learning techniques aimed at quantifying and monitoring blight problems.^{54–56}

Research has demonstrated that community improvement projects are relatively low cost and scalable.

And while funding long-term property maintenance may be challenging, research has demonstrated that these community improvement projects are relatively low cost and scalable. Most experimental studies are limited in their ability to assess long-term effects because of time and resource constraints. Therefore, the long-term effects of place-based interventions for reducing violence are largely unknown. For those programs that are capable of sustainability beyond the duration of studies, there is an opportunity to partner with academic researchers and use administrative data to evaluate effects over time with few additional resources.

UNINTENDED CONSEQUENCES Many of the places that could most benefit from place-based interventions for reducing violence are communities with high proportions of racial/ethnic minority populations that experience persistent violence, institutionalized racism, and concentrated poverty. Place-based interventions offer the opportunity to directly address structural racism by addressing larger structural factors that underlie the determinants of neighborhood conditions. However, these neighborhood improvements also create the possibility of perpetuating problems, including the potential displacement of vulnerable residents and changes to cultural norms that could disrupt rather than improve important social connections.⁵⁷ It is critical for research to include measures that account for these unintended effects. Discussions are ongoing in New Orleans about how the city can work with the regional housing authority to adopt policies that would prevent improvements from making properties cost-prohibitive for residents.

Conclusion

Collectively, the results of the studies described above suggest that place-based strategies that interrupt the cycle of disorder, decay, and crime

by remediating untended and dilapidated buildings and land can reduce violence. Theoretically, these sorts of contextual interruptions can begin to create safer streets where residents build trust, interact in positive ways, and work collectively to reestablish social control in their neighbor-

hoods. While challenges exist, these innovative and low-cost population-level interventions warrant the attention of stakeholders (including researchers and policy makers) to effect cost-effective and potentially lasting change across communities in need. ■

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