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A randomized trial of abandoned housing remediation, substance abuse, safety, and violence

Submission date
22/05/2019

Recruitment status
No longer recruiting

Registration date
14/06/2019

Overall study status
Completed

Last Edited
04/07/2024

Condition category
Other

[_] Prospectively registered
[X] Protocol
[X] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Housing abandonment poses a major health burden that has grown significantly over the past several decades in the US. Philadelphia has some 40,000 vacant properties, a significant number with abandoned residential buildings or structures. Research has shown that vacant and abandoned properties are associated with drug- dependence, firearm violence, stress, sexually transmitted diseases, and premature mortality. Research also shows that urban residents see abandoned buildings every day on their way to work or school, and describe these undesirable structures as visible detractors to community health, reducing community cohesion and creating trash, rodents, crime, fear, stress, and havens for transients, drug use, and sex work. Multiple theories posit that visible, environmental disorders, such as abandoned buildings, lead to community decline by signaling that a community is uncared-for, incivilities are tolerated, and the ability of residents to engage in shared expectations of social control over neighborhood problems is eroded. As a result, unhealthy behaviors, such as substance abuse and violence, become sheltered and more prevalent. Direct remediation of abandoned housing could thus be a potent intervention to interrupt the longstanding link between illegal drug trafficking and violence, yet there have been no randomized controlled trials (RCTs) that test the health and safety effects of abandoned housing remediation. The aim of this study is to assess the effects of abandoned housing remediation on substance abuse outcomes, both alcohol and drug related, and violence outcomes, particularly firearm violence.

Who can participate?
English and Spanish speaking people, aged 19 and over, who live in Philadelphia

What does the study involve?
About 300 randomly selected abandoned houses, grouped into four sections of Philadelphia, are randomly allocated to one of three interventions: full abandoned housing remediation (full treatment, along with graffiti and trash clean-up), graffiti and trash clean-up only (graffiti/trash treatment), and no housing remediation or clean-up (no treatment). The effects on and near the abandoned houses are measured in the 18 months before and after the interventions to determine whether abandoned housing remediation changes the occurrence of illegal drug

trafficking and consumption; illegal drunkenness and drinking; shootings and firearm violence; the use of outdoor space and perceptions of safety.

What are the possible benefits and risks of participating?
The benefits of participating in this study are access to a newly remediated buildings and contributing to a better understanding and knowledge-base as to the possible value of remediation abandoned buildings in cities. The risks of participating are minimal.

Where is the study run from?
University of Pennsylvania (USA)

When is the study starting and how long is it expected to run for?
January 2016 to March 2022

Who is funding the study?
National Institutes of Health (USA)

Who is the main contact?
Dr John MacDonald
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Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
R01AA024941

Study information

Scientific Title
A randomized trial of abandoned housing remediation, substance abuse, safety, and violence

Study objectives
1. Abandoned housing remediation will significantly reduce the occurrence of illegal drug trafficking and consumption compared with abandoned houses that have been randomly chosen

to receive only graffiti/trash clean-up or no treatment.
2. Abandoned housing remediation will significantly reduce the occurrence of illegal drunkenness and drinking compared with abandoned houses that have been randomly chosen to receive only graffiti/trash clean-up or no treatment.
3. Abandoned housing remediation will significantly reduce the occurrence of shootings and firearm violence compared with abandoned houses that have been randomly chosen to receive only graffiti/trash clean-up or no treatment.
4. Abandoned housing remediation will significantly increase perceptions of safety and the use of outdoor space compared with abandoned houses that have been randomly chosen to receive only graffiti/trash clean-up or no treatment.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 12/05/2016, University of Pennsylvania Institutional Review Board (3800 Spruce Street, First Floor Suite 151, Philadelphia, PA 19104 USA; Tel: +1 (0)215 573 2540; Email: irb@pobox.upenn.edu), ref: 824984

Primary study design
Interventional

Study design
Controlled parallel-group cluster randomized trial

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Substance abuse, alcohol abuse, safety, gun violence

Interventions
The focus on the remediation of abandoned buildings as solutions to substance abuse and firearm violence is based on a recognized conceptual framework and past theory. This framework and theory are then buoyed by the rationale that abandoned buildings are in great abundance in US cities, have been singled out by community members as detrimental, and are highly modifiable, structural factors that, if remediated, could yield sustained, lasting health benefits at relatively low costs.

The proposed RCT will be a stratified random assignment of abandoned houses into full treatment, graffiti/trash treatment, and no treatment arms matched within 4 sections of Philadelphia: north, south, west/southwest, and northwest. These sections of Philadelphia have clearly delineated roadway and water boundaries. Northeast Philadelphia is excluded because of the very limited number of abandoned buildings. The four sections of Philadelphia that will be involved in the study represent 90% of the city's population. A significant portion of the City of Philadelphia will thus be touched by the proposed trial.

Abandoned house addresses will serve as the index locations of data collection for the trial and its outcomes. Outcomes will be surveyed around each abandoned house. Study arms (treatments and control) will be concurrently exposed to the intervention, or not, within the same roughly 8-month period, with the study following a parallel group trial design where each

abandoned house receives only one treatment. Treatment or control status will be assigned to randomly selected houses within the same four sections of Philadelphia, i.e. matched by geographic section, to promote balance between study arms. As the researchers have successfully done in the past, an urn or repeat randomization procedure will also further ensure balance between study arms.

Across these four sections of Philadelphia, approximately 300 abandoned houses will be randomly selected and screened for inclusion into the trial from a larger universe of vacant properties. A master list of abandoned houses will be compiled from the City of Philadelphia records and will determine the universe of candidate abandoned houses available for random selection and enrollment. These abandoned houses will each be a standard 2-3 story Philadelphia row home and will be clustered in groups of 2-5 houses on neighborhood blocks with a minimum of housing occupancy. Each group of houses will be either immediately contiguous or within 660 feet/1/8 mile (a standard metric of proximity in Philadelphia City ordinances) of its nearest-neighbor abandoned house. These parameters are in keeping with standard municipal practices for remediation of abandoned houses in Philadelphia.

All abandoned houses, across all arms of the RCT, will also be screened for inclusion as if they were all going to receive the full housing remediation treatment. Only abandoned houses that are publicly owned and authorized by City of Philadelphia agencies to remediate, or abandoned houses that private owners consent to having remediated, will be eligible for inclusion in the RCT. Houses authorized for remediation will: (1) be in violation of the Philadelphia Doors and Windows Ordinance and/or Section 306 of the Philadelphia Property Maintenance Code requiring owners of abandoned buildings to clean their facades and install working doors and windows in all building openings and (2) have been abandoned, as confirmed by city records and in-person inspection. Houses that have already been remediated by local or municipal agencies will not be eligible for enrollment.

Full abandoned housing remediation RCT arm (full treatment):
Over an 8-month treatment period, the full abandoned housing remediation treatment will be performed on the abandoned houses randomly assigned to this RCT arm, followed by monthly maintenance and trash clean-up for the remainder of the post-treatment period. These remediations will be done by local building contractors who perform hundreds of housing remediations annually in the City of Philadelphia. The full abandoned housing remediation treatment will follow a standard protocol and include these activities: (1) replacement of plywood boards or missing or broken doors and windows with new, standard, exterior, front entryway, wooden doors and standard, double-hung, wooden windows; (2) removal or replacement of deteriorated structures on front building façade, such as eaves, downspouts, or gutters; (3) cleaning, new paint, and graffiti removal where needed on building façade; (4) monthly maintenance of new doors and windows and clean building façade, including the subsequent abatement of new graffiti; and (5) monthly trash clean-up. New doors and windows and a newly cleaned building facade signal that a property is cared for, prohibit easy entry, and are see-through thereby helping to reduce squatting, drug dens, and violence that proliferate when such behaviors are concealed from sight in abandoned buildings. Thus, in addition to a clean and cared for appearance, the dual-challenge of being seen more easily through glass windows (as opposed to, for instance, plywood coverings) and entering the openings of abandoned buildings through glass windows that make noise when shattered and leave a lasting, visual sign of forced entry, may prevent illegal substance abuse and violence.

Graffiti removal and trash clean-up RCT arm (graffiti/trash treatment):
During the same 8-month period as the full treatment arm, a graffiti and trash removal remediation treatment will be performed on the abandoned houses randomly assigned to this

RCT arm, followed by monthly maintenance and trash clean-up for the remainder of the post-treatment period. This will again be done by local contractors. The graffiti/trash treatment arm will follow a standard protocol and include these activities: (1) cleaning, new paint, and graffiti removal on building façade; (2) monthly maintenance of clean building façade, including the subsequent abatement of new graffiti; and (3) monthly trash clean-up. A motivation for the inclusion of this study arm is the isolation of the effects of the doors and windows replacement itself from the removal of graffiti and the cleaning of building facades. This study arm will directly test whether graffiti and trash remediation alone have an effect on substance abuse and violence outcomes. This is significant because graffiti and trash removal is a very common and inexpensive practice in cities around the world that is being conducted with almost no scientific evidence-base. Whether the removal of graffiti and trash actually affects negative outcomes like substance abuse, alcohol abuse, or firearm violence (as many have speculated) remains an outstanding but largely unanswered research question with sparse evidence, especially from RCTs.

Intervention Type
Other

Primary outcome(s)
1. Illegal drug trafficking and consumption, public drunkenness, gun assaults, and shootings measured using data collected from local police and aggregated by month for 18 pre-intervention months and 18 post-intervention months
2. Perception of safety and use of outdoor space measured using data collected from study participants in random sample surveys pre-intervention and post-intervention

Key secondary outcome(s)
There are no secondary outcome measures

Completion date
31/03/2022

Eligibility

Key inclusion criteria
1. Randomly sampled English and Spanish speaking individuals
2. Aged 19 years and older
3. Live within study clusters

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
19 Years

Sex
All

Total final enrolment
301

Key exclusion criteria
1. Non-English/non-Spanish speaking
2. Not residents living within study clusters

Date of first enrolment
04/01/2017

Date of final enrolment
31/03/2020

Locations

Countries of recruitment
United States of America

Study participating centre
University of Pennsylvania
Philadelphia
United States of America
19104

Sponsor information

Organisation
National Institutes of Health (USA)

ROR
https://ror.org/01cwqze88

Funder(s)

Funder type
Government

Funder Name
National Institutes of Health

Alternative Name(s)
US National Institutes of Health, Institutos Nacionales de la Salud, NIH, USNIH

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United States of America

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study are not expected to be made available due to issues of confidentiality and US Health Insurance Portability and Accountability Act restrictions (although to the extent that analytic data can be de-identified, it is possible that they will be made available).

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		05/12/2022	06/12/2022	Yes	No
Protocol (other)		05/12/2022	04/07/2024	No	No
Statistical Analysis Plan		05/12/2022	04/07/2024	No	No