

Upstream interventions: the impact of place-based interventions

Charles Branas

Gelman Professor and Chair,

Department of Epidemiology, Columbia University

[@EpiProfCharlie](#), [@CUEpidemiology](#)

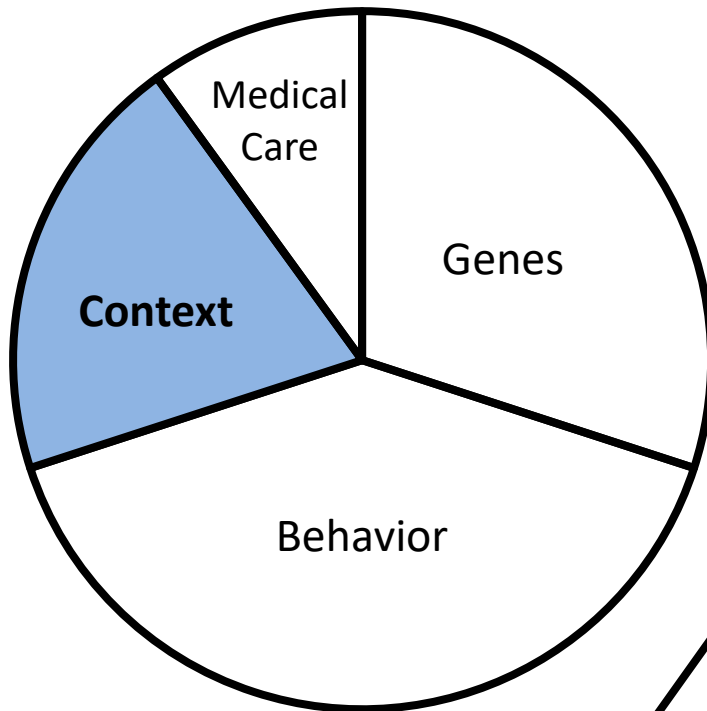
www.mailman.columbia.edu/epi

**Your ZIP code is a better predictor
of health and longevity perhaps
than any other factor, including
your genetic code**

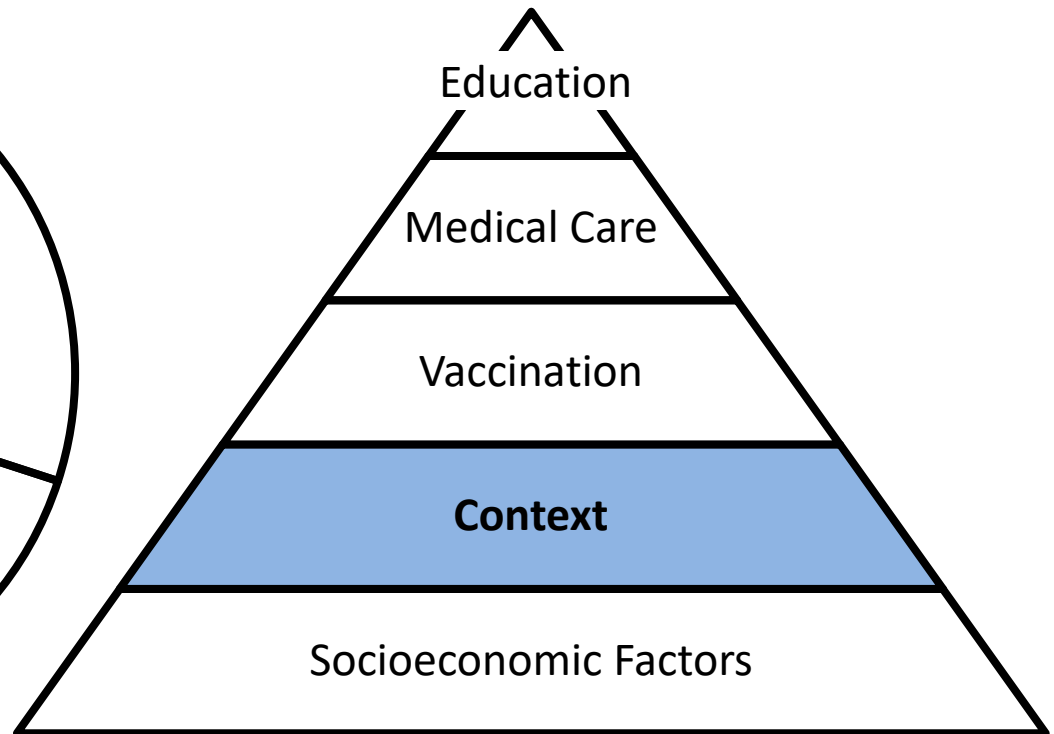
Power of place

context and environment strongly determine both ...

Poor health

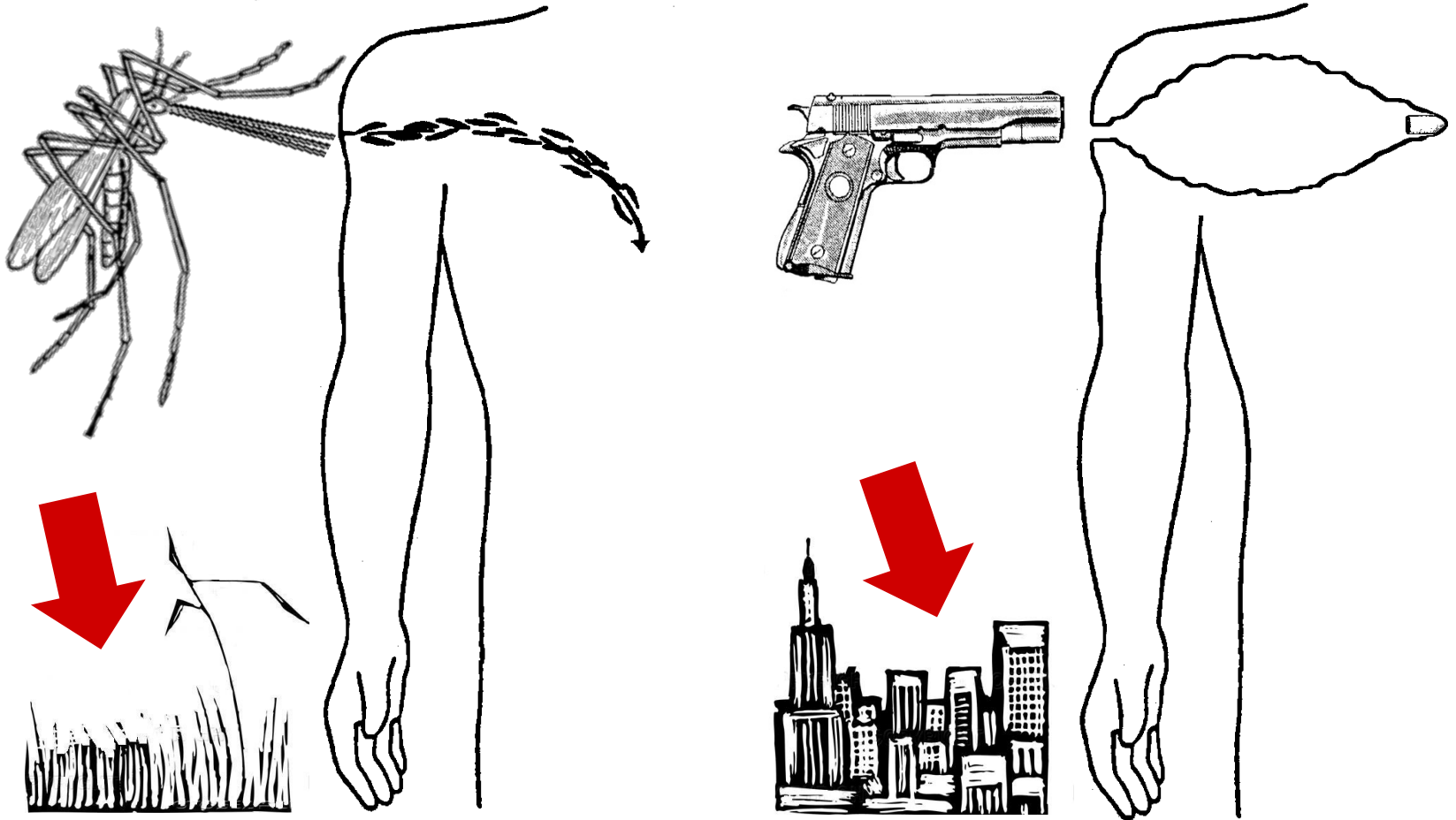


Good health



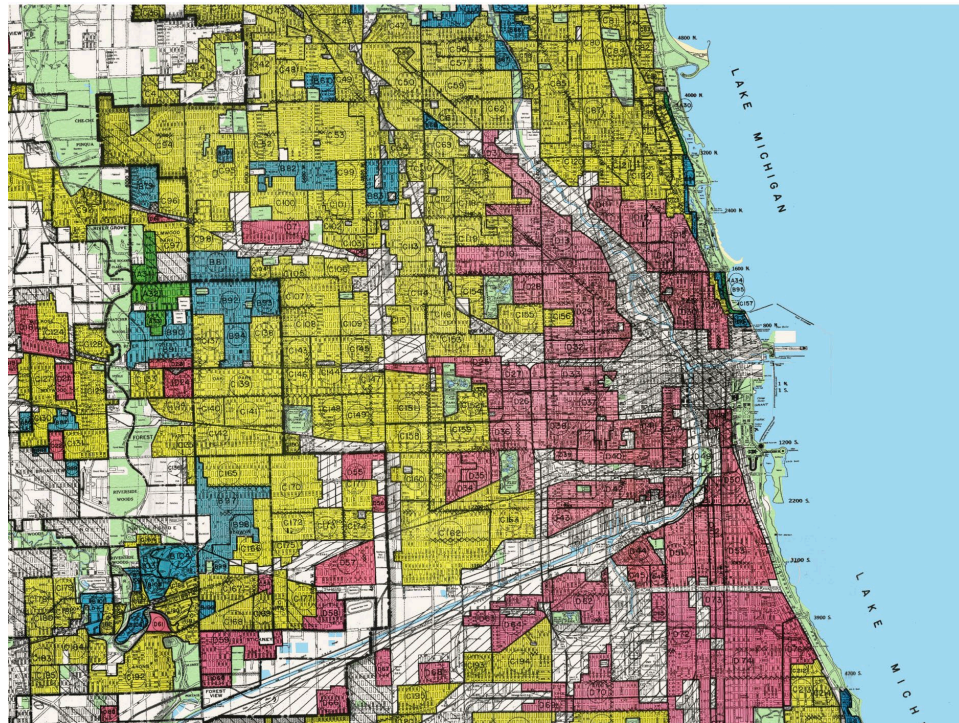
People, Pathogens, Places

“If a brackish tidal pool is breeding mosquitoes ... filling it in may be far more likely to continue reducing malaria years after funding has run out ... than expecting local community members to continue regular applications of larvicide.”

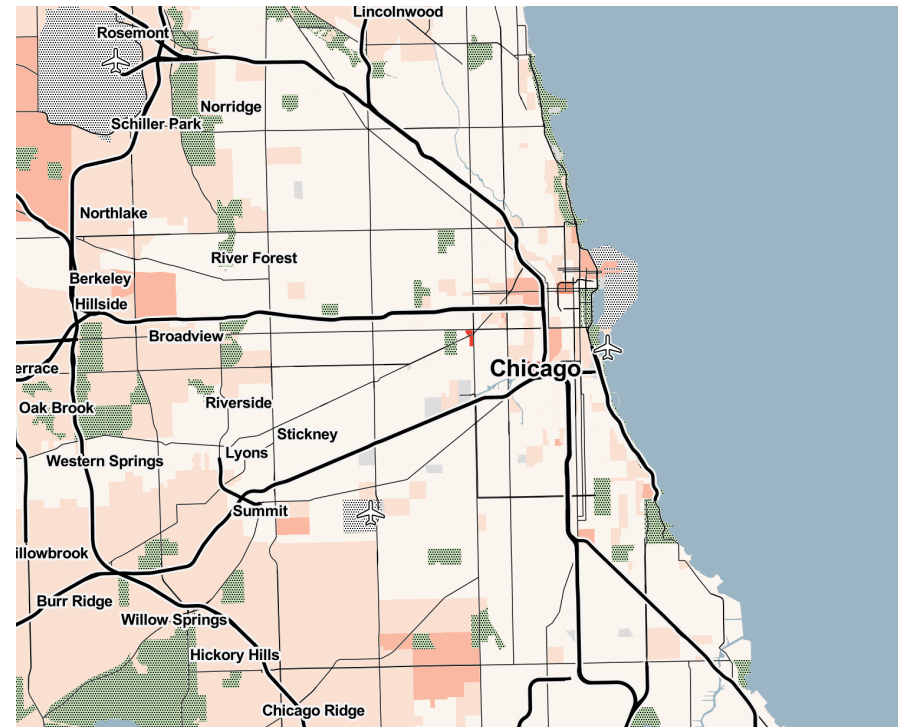


Chicago and many other US cities

Redlining denied FHA mortgages - 1940



Vacancy and abandonment - 1950



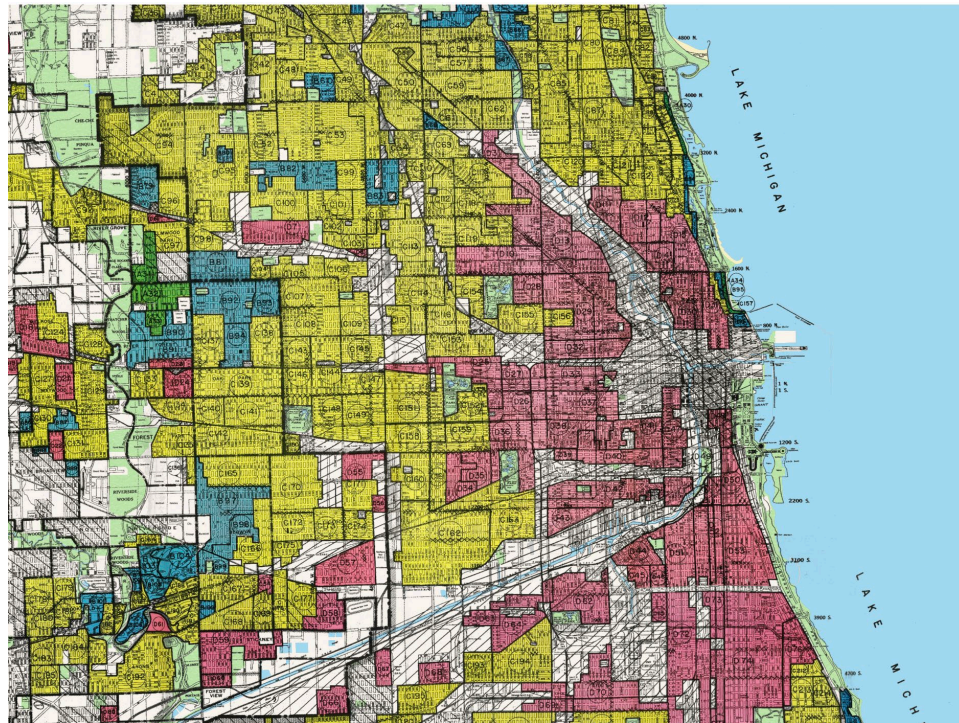
0-3% Vacant Houses

> 27%

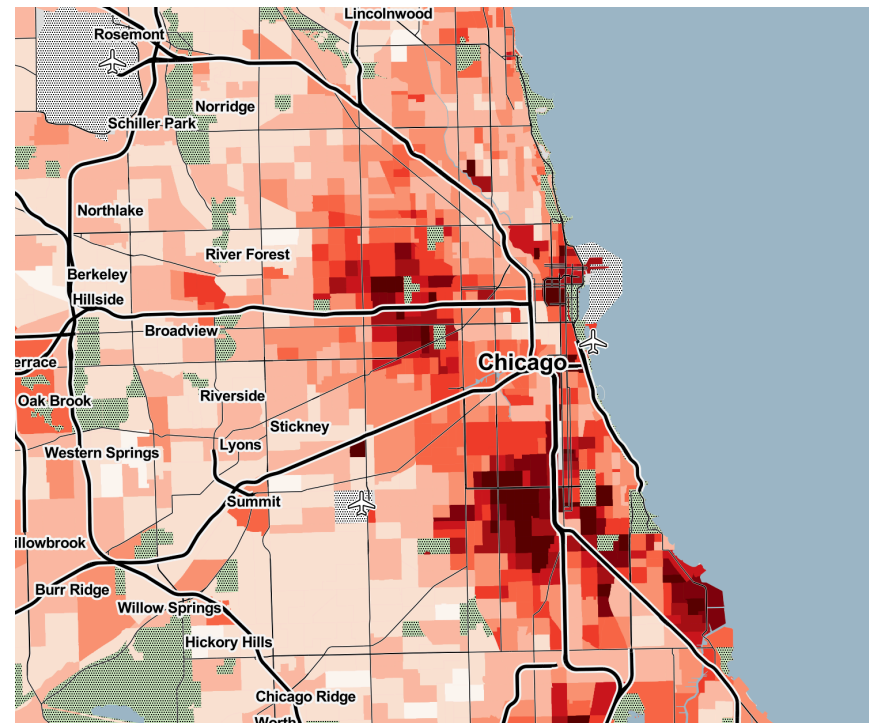


Chicago and many other US cities

Redlining denied FHA mortgages - 1940



Vacancy and abandonment - 2010



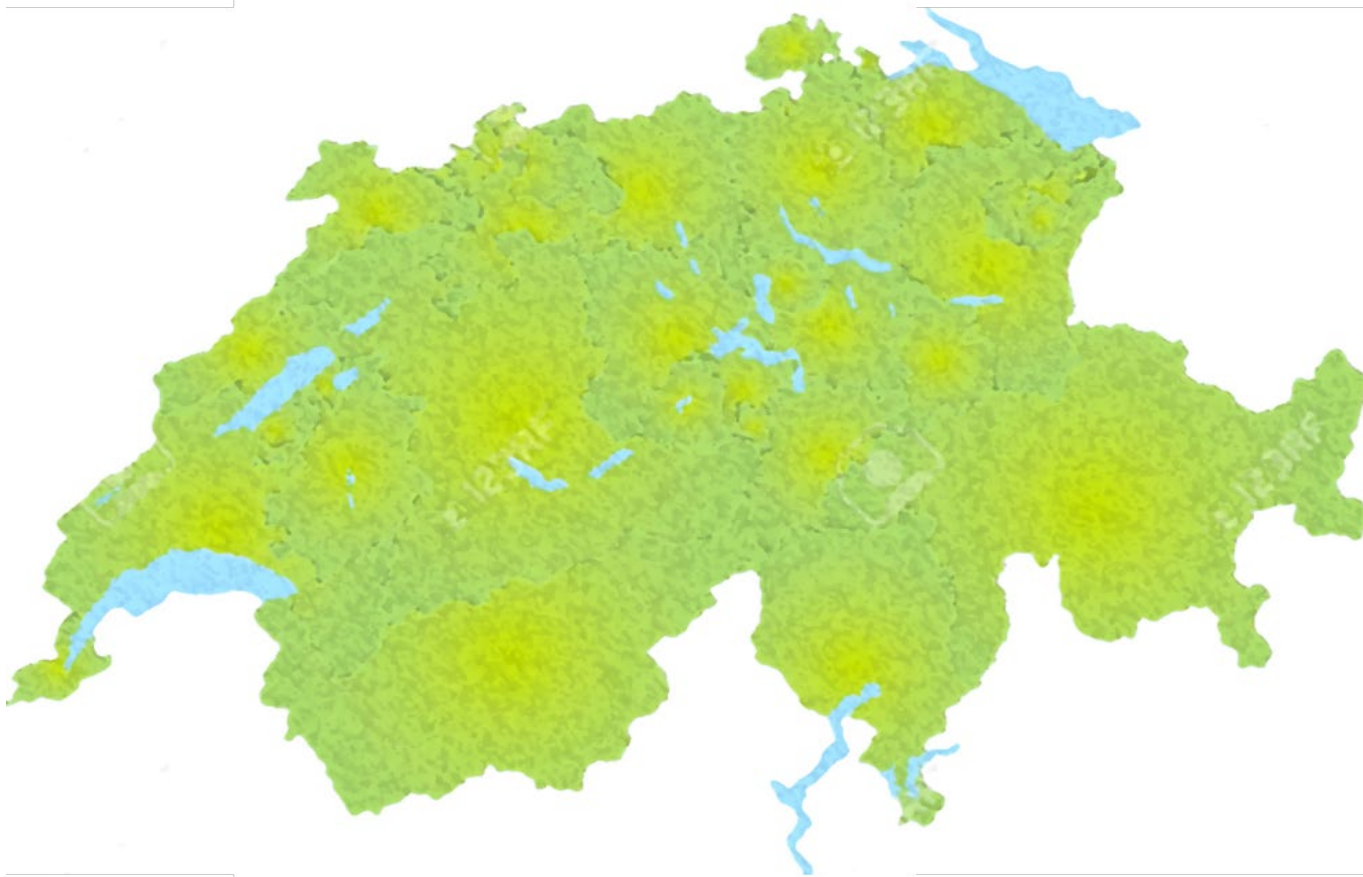
0-3% Vacant Houses

> 27%



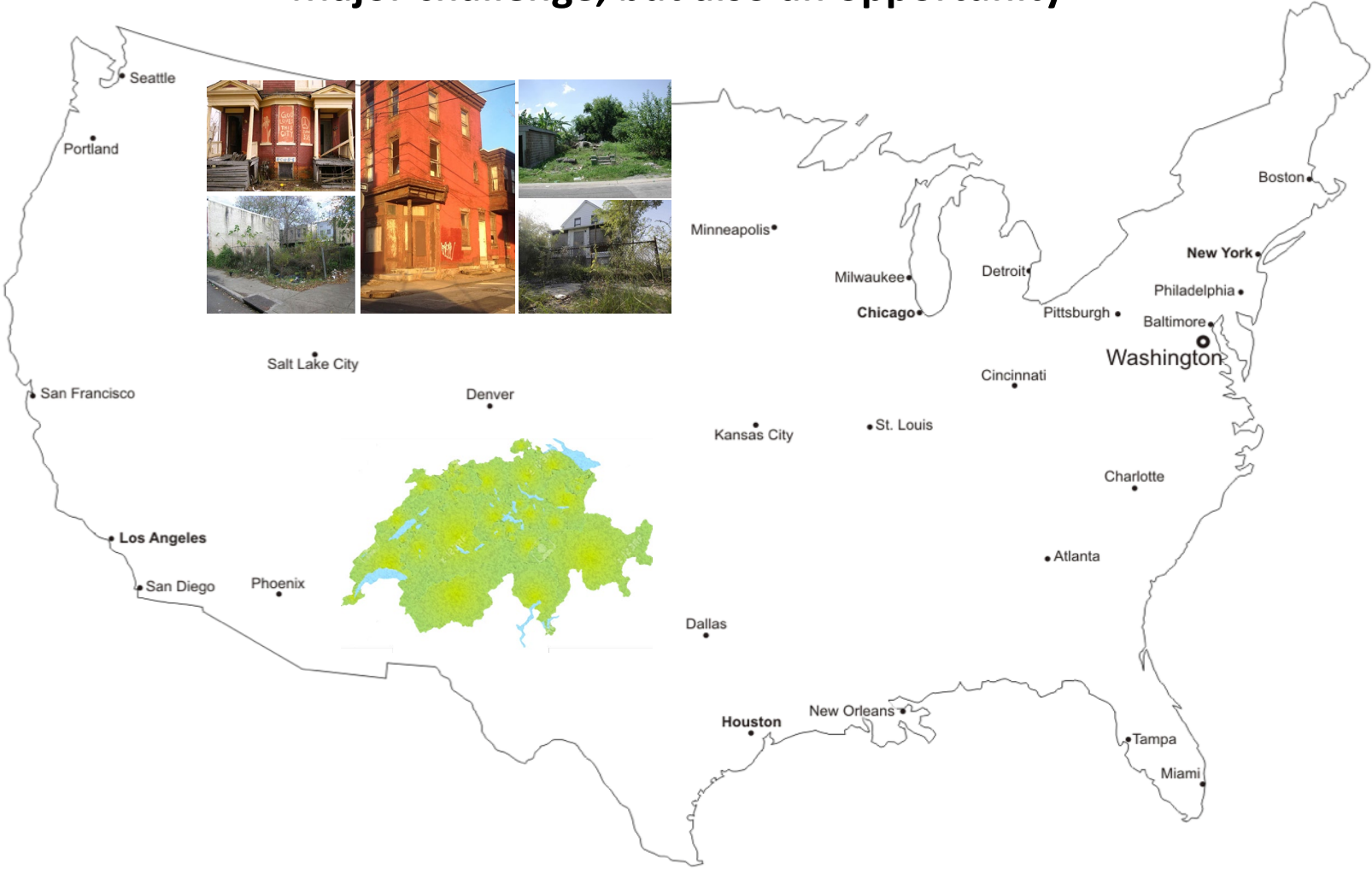
Spiral of structural racism, disinvestment, and abandonment





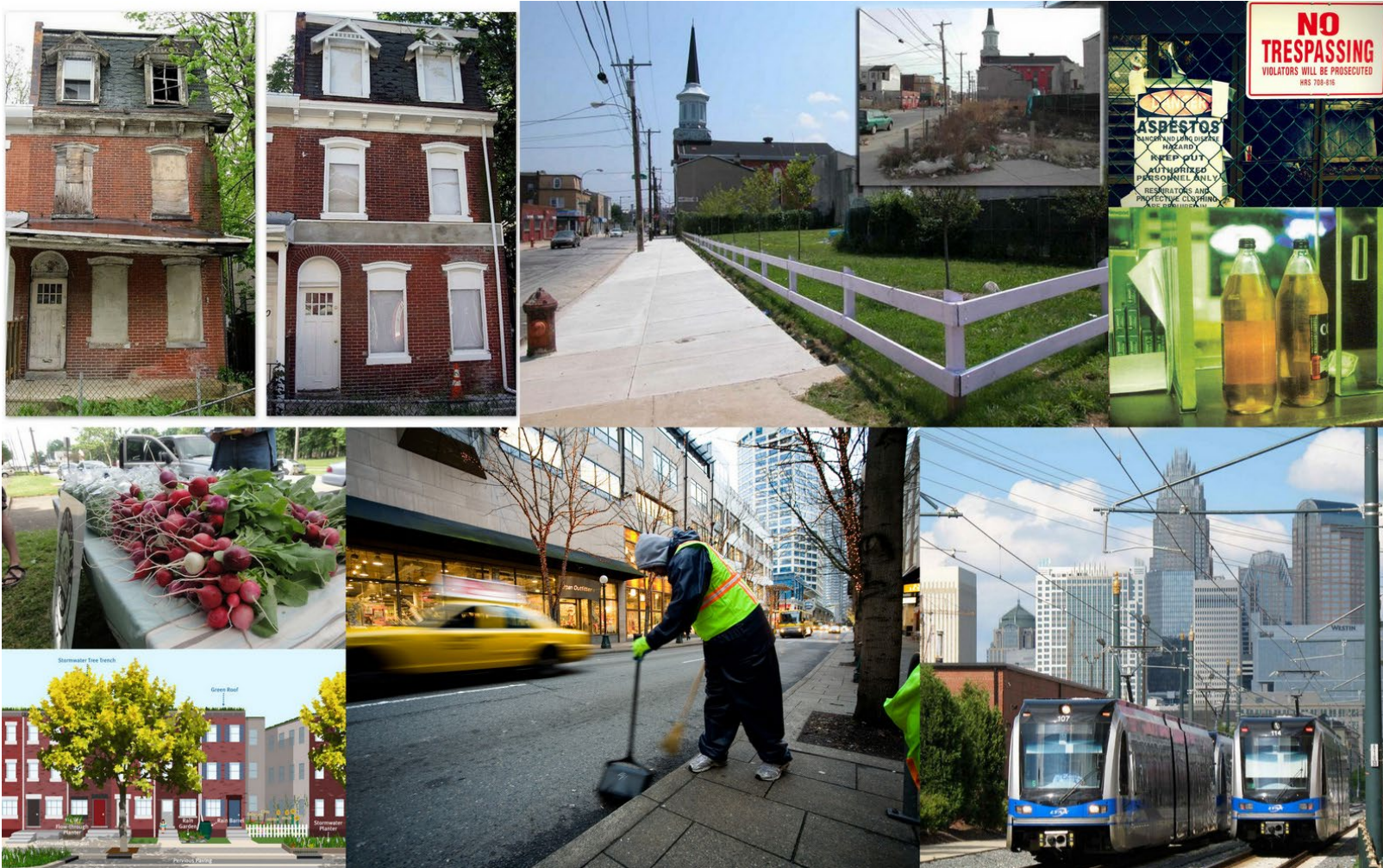
Vacant and abandoned spaces in US cities add up to an area the size of Switzerland

Major challenge, but also an opportunity

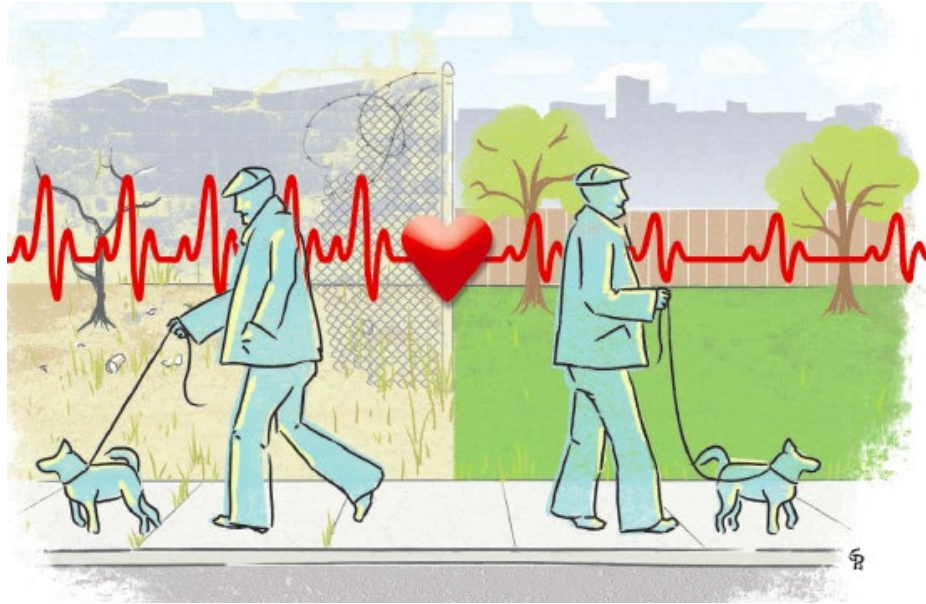


“In situ” Place-based Changes

Structural, Scalable, Sustainable



Community Initiation and Co-Design



Significant drop in heart rate when in view of newly greened lots

“You got to watch yourself walking past [vacant] lots because you don’t know who’s out there.”

“It’s not safe walking past [abandoned homes] because the one across from me looks like it’s getting ready to cave in.”

“If I could change things I would. There wouldn’t be so many vacant lots [and] abandoned houses.”



Observational research of changes over time

Vacant lots and abandoned buildings (n>10,000)



*Significantly less
gun violence,
stress for years
(up to -39%)*



*Every \$1 in
returns as much
as \$300*



Citywide Vacant Land

Randomized trial in Philadelphia

Random selection:

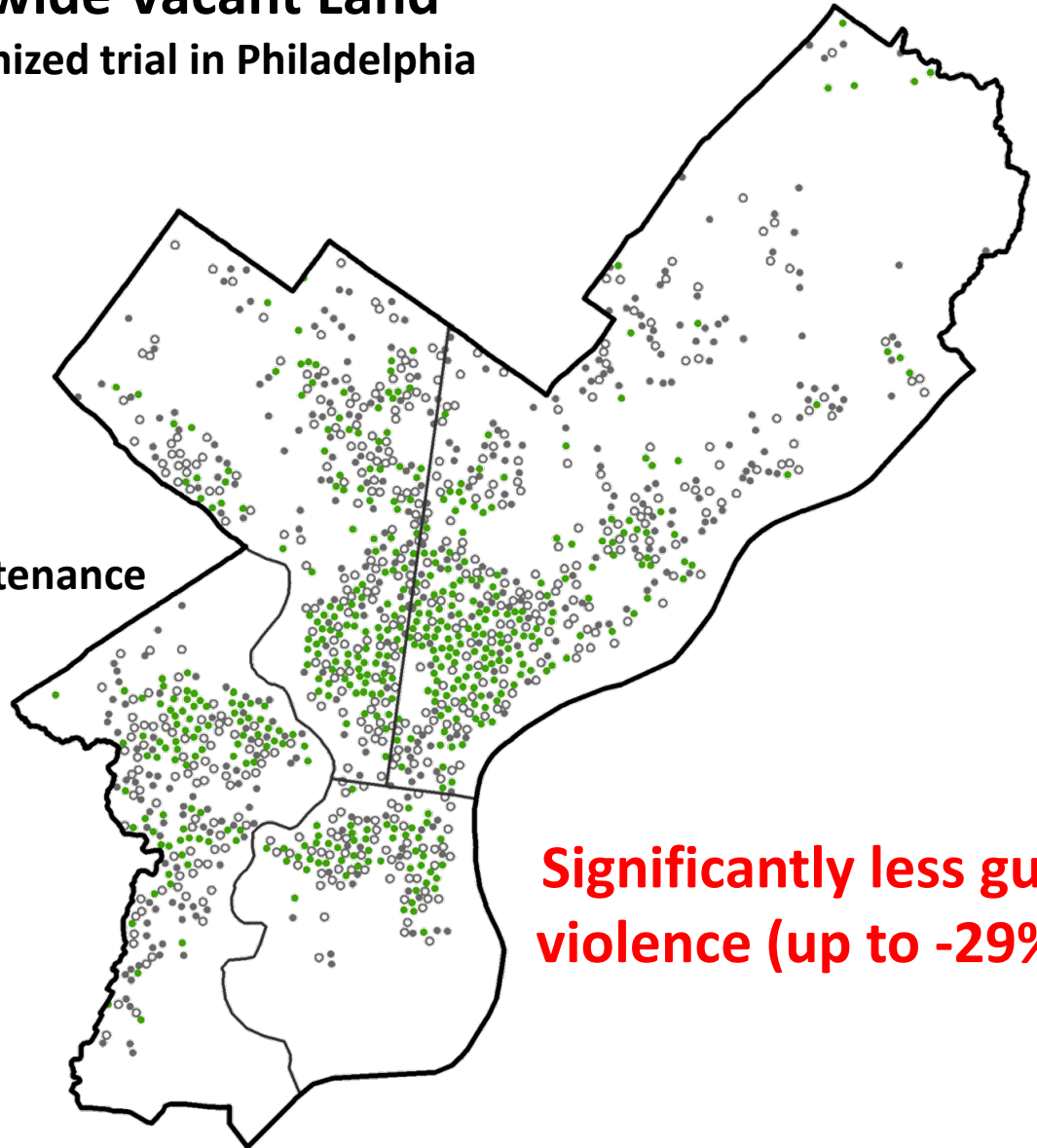
≈ 600 / 30,000
vacant lots

Random assignment:

● Cleaning + Greening + Maintenance

● Cleaning + Maintenance

○ Control lots



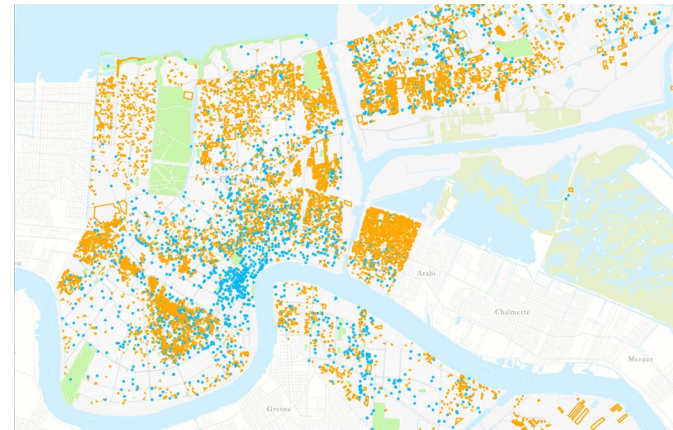
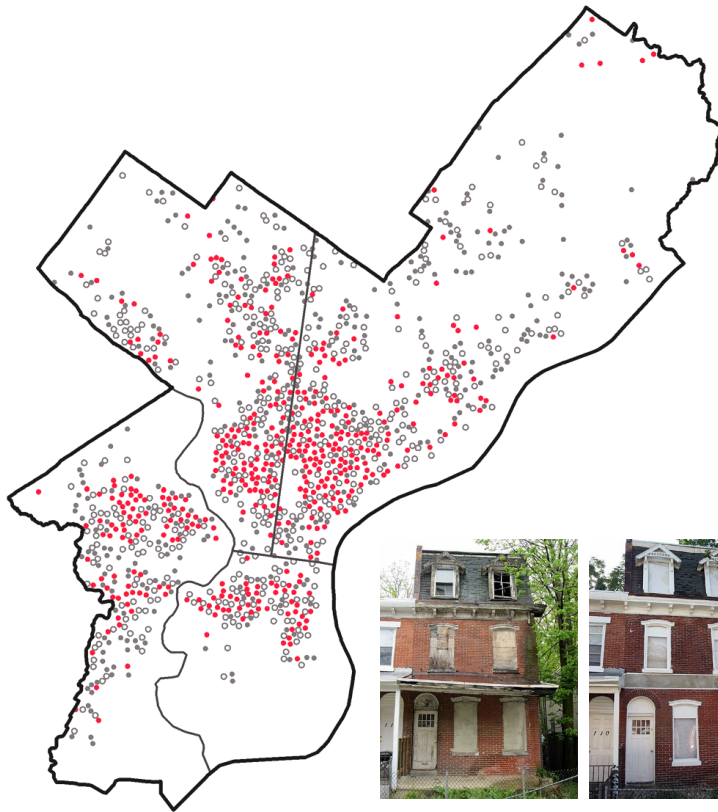
**Significantly less gun
violence (up to -29%)**

Other Citywide Randomized Trials

Abandoned buildings in Philadelphia

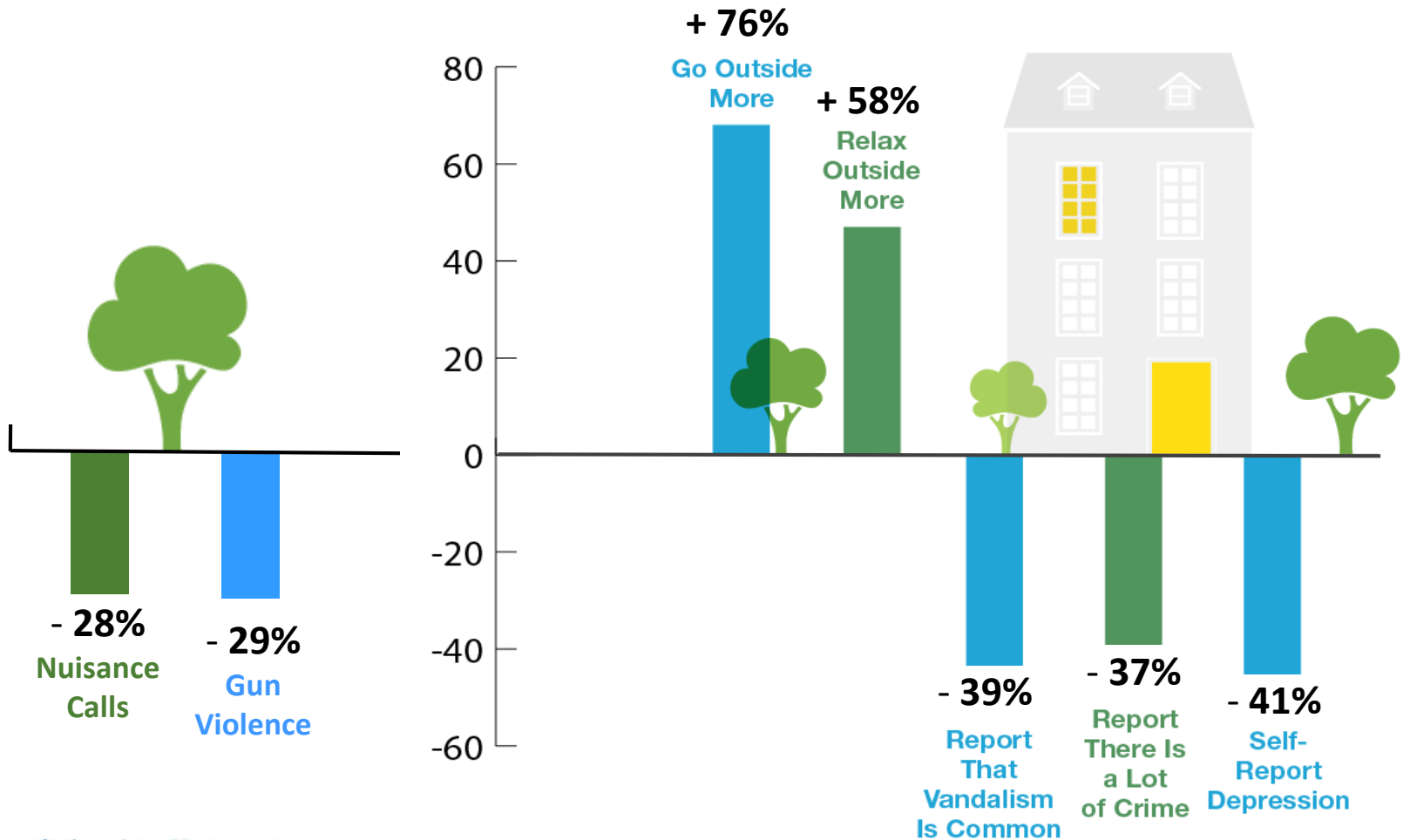
Significantly less gun violence (up to -23%)

Abandoned buildings and land in New Orleans



“Win-win science”

Community resources and co-benefits



How does it work?

1. Biologic response with less stress, fear, and aggression
2. Visual cues that someone cares, creating “busy streets”
3. Means reduction with fewer “storage lockers” for illegal guns

Place-based research and programs: *Greening, Buildings, Lighting, Trees, Transport*

-6% to -66% less violence, stress, fear, depression, sedentary behavior, cardiovascular risks



1. Baltimore
2. Baton Rouge
3. Charlotte
4. Chicago
5. Cincinnati
6. Columbus
7. Dallas
8. Detroit
9. Durham
10. Flint
11. Los Angeles
12. Louisville
13. Medellín
14. New Orleans
15. New York
16. Philadelphia
17. Toledo
18. Youngstown

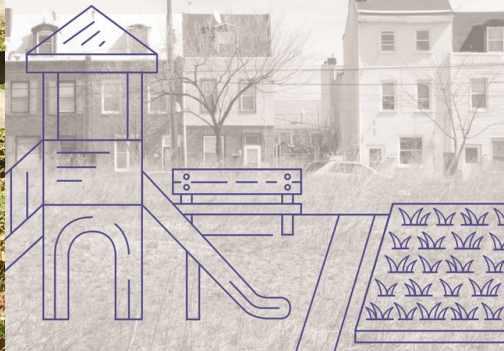
Take home points

1. “Programs that focus on places or structural dimensions can influence the lives of more people and for longer periods of time than individually based interventions”
2. Don't expect individual treatments to work if the places people live in remain chaotic and unhealthy
3. Changing places are important stand-alone treatments, and need not be complex or expensive to have an impact

*“If I could change things
I would. There wouldn’t
be so many vacant,
abandoned places”*

CHANGING PLACES

The SCIENCE and ART
of NEW URBAN PLANNING



JOHN MACDONALD,
CHARLES BRANAS, and
ROBERT STOKES