Children's Hospital of Philadelphia PolicyLab

Pilot Grants

Examining Impacts of Neighborhood Greening Interventions on Child Maltreatment

Health Equity

Statement of Problem

Child welfare involvement impacts a significant number of families in this country, and can have severe and long-term impacts on children, including poor developmental, physical, and mental health and negative educational outcomes, and disproportionately impacts low-income families of color. In 2018, reports alleging child abuse and neglect involved approximately 7.8 million children in the U.S., and nearly 678,000 children were found to be victims of child abuse or neglect. More specifically in Philadelphia, roughly 35,000 reports were called into the child hotline in 2019, of which about 5,000 children were substantiated victims.

Evidence suggests that access to greenspace, such as grass, trees, and parks, is protective against stress and violent crime. Neighborhood greening interventions (e.g., trash removal, planting of new grass and trees, installation of low wooden fences) may therefore serve as a promising strategy to mitigate and decrease the risks of child maltreatment, specifically in historically disadvantaged neighborhoods. However, little is known regarding the impact of place-based interventions.

Description

Our team is evaluating the impact of neighborhood greenspace on the risk of child maltreatment in Philadelphia. Given our emphasis on addressing neighborhood investment as part of this project, we created a community advisory group made up of diverse community stakeholders whose personal and professional lived experiences have helped inform study development and interpretation of findings.

In a serial, cross-sectional study, we found that there is a strong association between residential tree canopy—or areas in Philadelphia that are shaded by trees—and neighborhood risk of child maltreatment. After adjusting for child and adult population, race/ethnicity, and area deprivation index—which is a composite measure of socioeconomic and educational variables—we found that census blocks with a higher proportion of tree canopy cover were less likely to have substantiated reports of child maltreatment, cases accepted for child welfare services and child removals resulting in foster care placement. In addition, we found a dose-dependent response such that as tree canopy cover decreased, the odds of substantiated reports and cases accepted for child welfare services increased. The association between tree canopy cover and foster care placement was also significant, but less strong and consistent.

Next, we will conduct a quasi-experimental difference-in-differences analysis to evaluate whether greening interventions (e.g., tree and grass planting in vacant lots) confers protective effects on child maltreatment outcomes at the neighborhood level. We will conduct a secondary analysis of a prior study that randomized clusters of vacant lots to a greening intervention or no intervention. We will then compare child maltreatment

outcomes in neighborhoods near vacant lots that underwent greening with neighborhoods near vacant lots that experienced no intervention in the year before and after each intervention over a period of 10 years (2008 to 2018). Lastly, we will evaluate for parallel trends, then look for pre- and post-intervention differences in child maltreatment outcomes to estimate the impact of greening interventions on neighborhood child maltreatment.

Next Steps

We are working closely with our community advisory group to disseminate results to relevant stakeholders, including community members, advocates and local policymakers. We hope that our findings will inform policy opportunities to mitigate the risk of child maltreatment while directly addressing the built environment of historically disinvested neighborhoods.

This pilot grant project was completed in June 2023.

Suggested Citation

Children's Hospital of Philadelphia, PolicyLab. *Examining Impacts of Neighborhood Greening Interventions on Child Maltreatment* [Online]. Available at: http://www.policylab.chop.edu [Accessed: plug in date accessed here].

Project Leads

Yuan He
Yuan He
MD, MPH
Faculty Scholar

Team

Joanne Wood
Joanne Wood
MD, MSHP
Faculty Member
Eugenia South, MD, MSHP

Funders of Project

PolicyLab
Clinical Futures

Project Contact

Yuan He

HEY@CHOP.EDU