

Mulch Madness: A Community–Academic Partnership for Lead Poisoning Prevention

Kyle J. Moon, BS¹, ORCID: 0000-0003-0655-0583, Lauren N. Bauman, BA², Meghanne E. Tighe, PhD¹, ORCID: 0000-0002-8930-892X, J. Mike Coman, MDiv, MEd³, Kathy Schuth, BArch⁴, Cheryl Walsh⁵, Heidi A. Beidinger-Burnett, PhD, MPH⁶, ORCID: 0000-0002-8463-5665, Matthew L. Sisk, PhD⁷, and Marya Lieberman, PhD¹, ORCID: 0000-0003-3968-8044

(1) Department of Chemistry and Biochemistry, University of Notre Dame; (2) Department of History, University of Notre Dame; (3) Monroe Park Neighborhood Association; (4) Near Northwest Neighborhood, Inc.; (5) River Park Neighborhood Association; (6) Eck Institute for Global Health, University of Notre Dame; (7) Lucy Family Institute for Data & Society, University of Notre Dame

What Is the Problem?

- Childhood lead poisoning poses a significant danger to brain development.
- Owing to decades of redlining and discriminatory lending practices, communities of color are particularly at risk for encountering and living with dangerously high levels of lead in the soil, paint, water, or dust in their homes and neighborhood.

What Are the Findings?

- Three neighborhoods were mulched, and follow-up samples were collected from one of three neighborhoods. In the neighborhood with follow-up samples (Monroe Park), the average lead level was over 500 parts per million (ppm) before mulching and less than 20 ppm 2 months later.
- Many of the residents who did the sample screening kits learned about lead hazards in their homes. They also received information about inexpensive interim controls and learned about resources in the community to support reducing exposure risks from those hazards.
- Community partners felt comfortable speaking openly with academic associates, with the majority reporting a sense of ownership in Mulch Madness. Student volunteers reported that they learned more about lead poisoning and about the surrounding South Bend community by participating in Mulch Madness.
- Community–academic partnerships can be fruitful in generating knowledge for public health action.

Who Should Care Most?

- Local health departments and neighborhood associations may find value in partnering with academic institutions to execute programs for lead poisoning prevention.
- City government can play a role in institutionalizing Mulch Madness by trucking mulch from organic waste to neighborhood sites for community mulching projects that can promote community health.
- Academic institutions can provide vital capacity and resources to support neighborhood-wide remediation projects. Student satisfaction and engagement suggests that projects like Mulch Madness could be incorporated into courses with community-based learning experiences.

Recommendations for Action

- Community–academic partnerships require power sharing between community and academic partners, allowing both parties to take ownership in the project.

- Community-academic partnerships for lead poisoning prevention should address immediate soil lead hazards through mulch application and identify sources of home lead hazards.
- Community organizing approaches for lead poisoning prevention serve to educate residents, particularly those with young children, about the dangers of lead poisoning.
- Providing residents with resources, such as blood lead testing, lead screening kits, and grant funding for home repairs, allows them to address home hazards, unlocking their own power as agents of change in their neighborhoods.