# Project Summaries of Successful 2024 Grantees

## Lead Technical Studies (LTS)

### Kansas

*Kansas State University*

Award Amount: $799,969

Kansas State University will implement a targeted community health study designed to measure the effectiveness of in situ soil stabilization treatments to reduce lead bio-accessibility. The study aims to identify improved, cost-effective soil amendments to reduce the impact of elevated urban soil lead, build community capacity for target protocols, determine the efficacy of mitigation, and if available soil test methods can be cost-effective to measure reductions in bioaccessibility. Contact: Paul Lowe (785) 532-6804, plowe@K-State.edu.

### Maryland

*National Center for Healthy Housing, Inc.*

Award Amount: $661,089

The National Center for Healthy Housing, Inc. will create improved methods of evaluating and reducing lead-based paint hazards and other lead sources of exposure. This study will examine three blood ranges: between 1-3.4 micrograms of lead per deciliter of blood (mcg/dL); between 3.5-9.9 mcg/dL; and at or above 10 mcg/dL. In addition, the study will determine if children with blood lead levels near the CDC reference value, require new risk assessment methods to identify exposures and to remediate them before blood lead levels rise to higher levels, therefore meeting a primary prevention approach. Contact: Jonathan Wilson (443) 539-4162, jwilson@nchh.org.

*QuanTech Inc.*

Award Amount: $624,531

QuanTech Inc. will develop a test kit for lead clearance testing by building on a previous research project that focused on the development of test kits for lead-based paint (LBP) and dust wipe samples. This study will gain knowledge to improve the efficacy and cost-effectiveness of methods for evaluation and control of residential LBP hazards. Contact: David Cox (240) 397-2993, dcox@quantech.com.

## Missouri

*Northwest Missouri State University*

Award Amount: $379,948

Northwest Missouri State University will develop a novel data collection, data analytics and processing protocol that can be used with existing lead-detection techniques . Any method that can be modified to provide a signal (amount of light absorbed, color intensity, etc.) at multiple time intervals during the first few minutes of reaction can be adapted to the proposed protocol. Contact: Michael Bellamy, (660) 562-1513, bellamy@nwmissouri.edu.

## North Carolina

*University of North Carolina at Chapel Hill*

Award Amount: $799,920

The University of North Carolina at Chapel Hill will develop, pilot, and assess a low-cost scalable test kit and use a youth citizen science approach to proactively assess lead occurrence in 30-50 homes annually. This study will evaluate the efficacy and acceptability of these low-cost methods, as well as implementation elements for effective use, to inform and enable more effective lead screening and prevention for healthy homes. Contact: Susan Lucas (919) 966-3411, susan_lucas@unc.edu.

## New Jersey

*Stevens Institute of Technology*

Award Amount: $799,999

The Stevens Institute of Technology will conduct a comprehensive, 3-year greenhouse, field, and modeling study to explore the reduction of lead bioavailability using sustainable chemical amendments for soils with varying physical and chemical properties collected from San Antonio, Baltimore, and Detroit. Contact: Trudy Riley, (201) 216-3681, awards@stevens.edu.

# Healthy Homes Technical Studies (HHTS)

## District of Columbia

*Urban Institute*

Award Amount: $799,800

The Urban Institute will describe the potential exposure of Federally Assisted Housing Developments (FAHD) to flood hazards taking climate change into account. The study will provide a nationwide analysis of the uptake of flood and mold mitigation best practices by FAHD providers; and understand residents' perspectives on flood and mold risk and mitigation strategies. Contact: Andrew Rumbach, (202) 261-5821, arumbach@urban.org.

## Kentucky

*University of Kentucky Research Foundation*

Award Amount: $999,979

The University of Kentucky Research Foundation will improve cockroach management in affordable housing communities by understanding why cockroach control often fails, what residents are willing to do to help and combining this information with a novel management plan using liquid baits to generate a framework for sustainability. This study will evaluate barriers to successful cockroach control, determine the willingness of residents to adopt new behaviors that enhance cockroach management practices, and evaluate the efficacy of liquid baits for cockroach control in affordable housing. Contact: Eldridge Williams, (859) 257-9420, ospa@uky.edu.

## Louisiana

*Tulane Educational Fund*

Award Amount: $1,000,000

The Tulane Educational Fund will conduct a 12-month randomized control trial assessing the effectiveness of robotic High Efficiency Particulate Air (HEPA) vacuum cleaners to reduce allergy-inducing substances (allergens) in the home and improve asthma in 112 children. The study will compare the effectiveness of the vacuum to multicomponent intervention methods (air purifier, cockroach bait, HEPA vacuum, bed covers) to reduce allergen burden in the home and reduce individual allergens. They will also compare effectiveness of the two methods on the rate of asthma cases and examine the relationship between frequency of vacuum use, allergen concentration and measures of asthma morbidity. Contact: Tami Jenniskens, (504) 988-1748, tjennis@tulane.edu.

## Missouri

*Washington University*

Award Amount: $999,978

Washington University will examine the effectiveness and implementation of the Home Hazard Removal Program (HARP), adapted for people with disabilities. The study will conduct a pilot randomized control trial to test the implementation, cost, and preliminary efficacy of an adapted version of HARP for community-dwelling people with disabilities. The single-blinded feasibility randomized control trial will randomize 40 participants to treatment (adapted HARP) and 40 to a waitlist control group. Contact: Teri Medley, (314) 747-4134, researchgrants@wusm.wustl.edu.

## Pennsylvania

*University of Pittsburgh*

Award Amount: $857,941

The University of Pittsburgh will identify, evaluate and develop an implementation guide for commercially available, cost-efficient smart home technology that can be integrated into a home modification program for older adults to allow them to age in place. In addition, the study will demonstrate the feasibility of adding smart home technology to home modification programs, evaluate the performance of smart home technology for aging in place, and design and test an online smart home technology training course. Contact: Pamela Toto, (412) 383-6612, PET3@pitt.edu.

## Puerto Rico

*Puerto Rico Science, Technology & Research Trust*

Award Amount: $999,998

The Puerto Rico Science, Technology & Research Trust study will evaluate the improvement in managing insects that transmit the dengue disease in low-income housing projects (“residenciales” in Puerto Rico) by adding window screening to an Integrated Vector Management program. In addition, this study will give economic opportunities to residents within these housing projects by their working in the study and will include a sustainability plan to continue the program after this project ends. Contact: Grayson Brown, (939) 226-3057, gbrown@prvectorcontrol.org.