

2018 Lead and Healthy Homes Technical Studies Programs Grant Awards

Maryland

The National Center for Healthy Housing, Inc., partnering with Cincinnati Children's Hospital, will be awarded \$650,000 to conduct a retrospective data analysis of the effectiveness of lead hazard control abatement techniques that were used in the HOME Study (previously funded by HUD and the NIH). The grantee will determine whether aggressive lead hazard control interventions, conducted in both urban and suburban households, can keep dust-lead levels sufficiently low to prevent children from developing elevated blood-lead levels. The study will also provide information about the intensity of interventions needed to achieve dust-lead clearance levels that are lower than the current federal standard.

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The National Center for Healthy Housing, Inc., partnering with the Michigan Department of Health and Human Services, will be awarded \$596,830 to analyze data collected by the State of Michigan's lead poisoning prevention program to characterize and assess recent lead levels in dust, soil, paint, and drinking water, while controlling for a large number of potentially confounding variables. These levels will be modeled to predict exposures using robust structural equation modeling, which has been used previously in the evaluation of HUD's Lead Hazard Control Grant program and other research. The study will provide updated information on the relative contributions of various residential lead exposure sources to children's blood-lead levels.

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Massachusetts

Massachusetts Department of Public Health, partnering with the University of Massachusetts, Lowell, will be awarded \$1,000,000 to conduct the ROAAD-X study which will provide evidence as to whether a scaled down version (fewer home visits) of an innovative Community Health Worker-led multi-component asthma home-visiting intervention with strong clinical-community linkages, has the potential to improve asthma control and healthcare utilization for older adults with asthma. The ROAAD-X study will enroll eligible participants at Lowell Community Health Center, the ROAAD pilot clinical site, and conduct an analysis of the cost effectiveness and return on investment (ROI) of the interventions. It will also seek to validate a tool created by MDPH to quantify indoor environmental asthma triggers.

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President and Fellows of Harvard College, teaming with an affordable housing provider (Beacon Communities), will be awarded \$999,912 to conduct a study to optimize the impact of smoke-free residential policies in federally assisted multifamily housing using an evidence-informed implementation approach. The study will use six key implementation strategies identified in earlier research on the experiences of public housing authorities (PHA) that implemented smoke-free housing policies. The primary objective is to develop evidence-based smoke-free policy implementation strategies. It uses an established implementation science framework to guide the approach using a mixed methods approach embedded within a longitudinal design to collect and analyze outcome and implementation process data.

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Tufts University, teaming with the City of Somerville (MA), will be awarded \$779,935 to develop a performance-based evaluation framework specific to multifamily housing near highways that considers air quality benefits, indoor comfort, and sustainability of various HVAC and air-filtration systems. The study has two main objectives: (i) to quantitatively assess the indoor air quality benefits derived from use of high efficiency filters and optimization of ventilation system design parameters in public housing located near highways; and (ii) to develop a guidance document based on a stakeholder workshop that can be used to inform the design of HVAC systems and their operation for multi-family housing near busy roadways.

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New York

The Trustees of Columbia University in the City of New York, partnering with Ohio State University, will be awarded \$991,572 to conduct a study that directly builds on a prior HUD-funded work to address critical knowledge gaps in the understanding of the determinants of fungal exposure in low-income, urban homes and the relevance of early-life domestic exposure to a specific type of commonly occurring fungi in the in children's asthma development. The study design leverages biospecimens and databases readily available from two New York City (NYC) study cohorts including a comprehensive prospective birth cohort of African-American and Hispanic children who have grown up in the northern Manhattan and the South Bronx, two communities with high burdens of poverty, asthma and reported domestic mold.

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Texas

Baylor College of Medicine will be awarded \$1,000,000 to conduct a randomized pragmatic clinical trial to assess the efficacy of residential asthma interventions in the homes of 100 individuals with asthma aged 12 years and older who reside in one of two public housing communities owned and operated by the Houston Housing Authority. Researchers will also assess the impact of interventions on chronic rhinitis, which can also be triggered by residential exposures. Participants will be randomized into one of two treatment groups: (1) phone calls only, or (2) home visits to implement and reinforce a clinically driven multi-component trigger reduction and asthma control plan. The study will include an on-site clinic for enrollment at each complex. In addition, a community health worker will be hired and trained from each property and will be as an integral part of the research team.

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The University of Texas at El Paso will be awarded \$699,911 to study the effectiveness of a neighborhood-based approach, integrating community education on child lead exposure, with household-level lead hazard detection and caregiver-assisted mitigation in preventing elevated blood-lead levels (BLLs) in children. The study will use three sets of objectives to guide the collection of data needed to test study hypotheses. The effectiveness of interventions will be determined by assessing post-intervention changes in residential lead hazards, children's BLLs, and caregivers' knowledge and perception on preventing children's lead exposure.

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