

CIR Abstracts – 2017 Lead Technical Studies NOFA Awards

Colorado

The Regents of the University of Colorado will be awarded \$500,000 to conduct a national evaluation of the neighborhood benefits of lead-based paint hazard interventions using existing secondary data. Specifically, the study team will measure the impact of funding from HUD's Lead Hazard Control (LHC) programs between 1993 and 2016 on property values, neighborhood health, and economic outcomes. They will also provide a detailed analysis of the determinants of effective LHC grantee programs as measured by improvements in housing and neighborhood quality. The results directly contribute to the priority goals and objectives of HUD's Lead Technical Studies program and will provide a useful framework to use existing secondary data to monitor and evaluate the effectiveness of other LHC interventions.

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Illinois

Sinai Health Systems, Inc. will be awarded \$499,987 to conduct a 3-year study with the long-term goal of reducing lead poisoning among children living in some of West and Southwest Chicago's most economically challenged communities. It will do so by generating evidence concerning the feasibility, effectiveness and cost-effectiveness of using community health workers (CHWs) to conduct proactive visual inspections in homes for LBP hazards before a child is exposed. To facilitate the identification of homes for this intervention, a University of Chicago predictive model will be used to identify homes at highest-risk for having such hazards as well as enrollment data from City of Chicago's Dept. of Public Health (CDPH) programs. During the study, Sinai Urban Health Institute will reach out to families of approximately 600 infants to attempt to enroll them into the study and complete the CHW-led visual inspection for lead-based paint hazards. When warranted, a full lead inspection and risk assessment by CDPH's licensed lead inspectors will be conducted.

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Michigan

Michigan Technological University will be awarded \$492,633 to demonstrate the long-term efficacy of using vetiver grass in reducing lead in soil through in-situ studies on six residential properties in two geographically distant areas in the United States, NJ and TX, characterized by very different climate pattern and soil types. They plan to validate the biochemical mechanisms behind vetiver's lead tolerance from the Phase-I and II studies using onsite data, test the ability of vetiver grass in reducing soil erosion, and decreasing the amount of lead-laden dust generated. The study will evaluate reuse possibilities of the vetiver biomass, such as recycling as compost material, feedstock for bioethanol production, or anaerobic digestion to produce biogas. In addition, the study team will engage the community through various outreach and educational activities to spread awareness of lead hazard control technologies, and develop a guidance manual for implementation of the technology (catalyzed vetiver phytoremediation).

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CIR Abstracts – 2017 Healthy Homes Technical Studies NOFA Awards

Missouri

Washington University will be awarded \$665,000 to study the feasibility of translating fall prevention research on removing home hazards into an effective home hazard removal program delivered in affordable senior housing units managed by St. Andrew's Resources for Seniors System. They plan to study both the effect of the intervention in a real-world setting and the implementation strategy. The study will determine the acceptability and feasibility of delivering the home hazard removal program in low-income senior apartments and whether the home hazard removal program is effective and cost-effective in reducing the rate and post-intervention risk of falls.

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New Jersey

Rutgers, The State University of New Jersey will be awarded \$360,000 to investigate patterns of pest infestation and pesticide use in low-income housing in 4 housing communities in New Jersey (Jersey City, Linden, Paterson, and Trenton) that collectively include 3,928 apartments. They will evaluate silica gel dust for bed bug control in apartments, evaluate plastic and fabric encasements for early detection and control of bed bugs, and evaluate two minimum risk bed bug treatment protocols (chemical and non-chemical) for control of bed bug infestations. It is expected that the study findings will be useful to property managers and residents by providing guidance on the most effective bed bug control tools and methods.

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New York

Health Research, Inc./New York State Dept. of Health will be awarded \$435,000 to investigate an effective sampling strategy for radon testing in multi-family housings. Currently, there is significant variation in recommendations for the number of individual ground floor units in a multifamily building that should be tested for radon. The researchers will obtain and analyze over 7,000 results of completed radon measurements from 100% of ground-floor units in over 500 multifamily buildings. The data are from radon professionals located in several states. Statistical analysis of the radon measurement data will be conducted to ascertain the minimum number of measurements needed to adequately assess the radon risk at a particular (e.g., 90%) confidence limit, and calculate and compare the increased health (lung cancer) risks to occupants associated with partial (e.g., 10%; 25%) and complete (100%) testing of multifamily units.

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Ohio

University of Cincinnati will be awarded \$ 670,000 to study and define more precisely the dose-response relationships between mold exposure in homes and adverse health outcomes, which can be used to support the development of health-protective guidelines for indoor mold. The proposed work involves

the analysis of data and dust samples from a prospective cohort study of asthma development, the Cincinnati Childhood Allergy and Air Pollution Study (CCAAPS), a well-defined birth cohort of high-risk children living in the Cincinnati (Ohio) and Northern Kentucky metropolitan area. The researchers will combine reanalyzed data on observed mold and quantitatively assessed mold with new microbiome data derived from archived dust samples to conduct a comprehensive analysis on the role of observed versus measured mold in the development of children's asthma.

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Virginia

Virginia Polytechnic Institute and State University will be awarded \$600,000 to study the short- and long-term performance of common point-of-use filters (POUs) for removing lead from drinking water under conditions typical of high risk water systems to develop knowledge needed to better protect consumers. The study will also involve the development of evidence-based exposure reduction guidelines and outreach strategies to address weaknesses in public education, with a focus on vulnerable communities. The study involves an examination POU lead removal efficiencies when exposed to varying concentrations of soluble and particulate lead and iron, evaluation of POU efficacy for periods up to and beyond rated capacity, identification of challenges and barriers to POU use, and evaluation of pre-and post-intervention awareness and risk perceptions of lead exposure. The study is a collaboration between Virginia Tech Department of Civil and Environmental Engineering, Louisiana State University School of Public Health, Macon County Health Department (Macon County, NC), Louisiana Environmental Action Network (St. Joseph, LA), and Southern United Neighborhoods (New Orleans, LA).

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