Healthy Homes Grantees in Region V, Midwest

Name of Grantee: Cuyahoga County Urban Moisture & Mold Program
Name of Project: Cuyahoga County Department of Development
Amount Awarded: $3.1 million
Year of Grant: 1999
Contact Info:
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Project Partners: Cuyahoga County Board of Health (CCBH) and Case Western Reserve University (CWRU), Cuyahoga County Urban Moisture and Mold Program (UMMP), Environmental Health Watch, the Neighborhood Centers Association, the Cuyahoga Metropolitan Housing Authority, the Cleveland Housing Network, the USEPA Microbial Exposure Research Laboratory, P&K Microbiology, and IBT Laboratories will be the other key collaborators

Summary of Project Activities:
The Cuyahoga Department of Development (DOD) is the administrative arm of the Cuyahoga County Consortium comprised of the Urban County and the Community Development Block Grant (CDBG) entitlements of Euclid, Lakewood, Parma and Cleveland Heights. Under DOD, there are 46 participating communities in the urban county. DOD will be collaborating with the Cuyahoga County Board of Health (CCBH) and Case Western Reserve University (CWRU) on a research and demonstration project called the Cuyahoga County Urban Moisture and Mold Program (UMMP). Environmental Health Watch, the Neighborhood Centers Association, the Cuyahoga Metropolitan Housing Authority, the Cleveland Housing Network, the USEPA Microbial Exposure Research Laboratory, P&K Microbiology, IBT Laboratories, and the Greater Cleveland Asthma Coalition will be the other key collaborators.

This grant application describes a unique and dynamic research and intervention project focusing on specific factors that impact child health in the home environment. The program will focus on primary prevention and morbidity reduction among low-income children residing in clearly delineated high-risk areas. It is designed to address the diseases of pulmonary hemosiderosis, asthma, and lead poisoning by controlling the environmental factors that allow for the proliferation of these conditions, particularly moisture and mold (MM) problems in the home.

These objectives will be met through the following activities: outreach, environmental assessment of the units and clinical assessment of the families, cost-effective home remediation of MM and lead hazards, post-remediation environmental testing, follow-up environmental and clinical testing, and comprehensive education of families and foster parents. This application will fund all the aforementioned activities in 180 target census tracts in the following project area communities: Cleveland, East Cleveland, Cleveland Heights, Maple Heights, Garfield Heights, Newburgh Heights, Warrensville Heights and Euclid. All study results will be disseminated throughout the entire community via the Cuyahoga County Health Care Council.
Age and Condition of Housing
The housing in Cuyahoga County as a whole is generally old, with 45.4% (274,307) built before 1950. In the target area, 63.6% (112,044) units were built before 1950. Within the target area 29.8% (114,861) persons are living below the poverty level versus 13.8% (191,149) of persons meeting this designation in the county as a whole. It is reasonable to assume that the condition of many of the housing units in the target area is likely to be substandard due to the lack of funds for most families to adequately maintain their homes. This assumption remains constant with our experience in these communities.

Income, Children <6 Years of Age, Unemployment
A significant portion of families living in the UMMP target area are low and very low income persons earning <80% of the median income. Specifically, 62.52% (234,748) of persons meet this criteria in the target area. Comparatively, 39.46% (531,321) of the people in the entire county meet this criteria. Within the area of focus, 36.7% (39,021) of the children are below the age of six, as percentage of all children under age eighteen. Overall, 9.9% of all persons living in the target area are under age six. Unemployment rates in the target area are over double that of the entire county. The study area exhibits a 15% (24,892) unemployment rate while the whole county reports 7.5% (51,371) unemployment.

Race Data
A particularly stark contrast between the target area and the entire county exists when examining race data. Cuyahoga county is 24.8% (350,185) African American while the target area is 70.3% (277,477) percent African American, according to 1990 census data. These statistics follow quite closely when viewing concentrations of minority persons as a group, where 72.3% (285,237) of the people residing in the target area are minorities versus 28.4% (400,659) in the entire county, with Hispanic persons representing only 1.2% (4,548) of all persons in the study area. This data was the basis for determining which census tracts to target in the grant.

Pulmonary Hemosiderosis
Since 1994, Greater Cleveland has been the epicenter of an outbreak of acute pulmonary hemorrhage/hemosiderosis among infants. Local, state and national research and media attention has documented this previously rare disorder, which has been diagnosed in 43 infants in Northeast Ohio in the past five years. This serious disorder causes infants to cough blood and usually requires intensive care measures. Fifteen (35%) of these infants have died including nine originally diagnosed as Sudden Infant Death Syndrome (SIDS). Thirty three (77%) of these infants were African American, and all but one of who live in a limited geographic area of eastern metropolitan Cleveland in an area of poverty and older housing stock that is often poorly maintained.

An investigation of this outbreak in 1994 led by the CDC has linked this disease with exposure to a toxigenic mold called Stachybotrys chartarum (formerly atra), which was found in the infants homes. This mold requires water-saturated cellulose products to grow and has been linked to chronic basement flooding and/or chronic plumbing/maintenance problems. Once the source of water damage is corrected, the mold problem itself can be addressed by a varying degree of housing interventions. These cost-effective housing interventions were developed in Greater Cleveland and are consistent with contemporary health and safety guidelines for the safe removal of fungal contamination in buildings.
For the geographic cluster area in our proposal for the period 1/1/93 through 11/23/95, idiopathic pulmonary hemosiderosis accounted for 12% of the infants deaths originally classified as Sudden Infant Death Syndrome. Similarly, the incidence of IPH for this area and time period was 1.5 per 1000 live births with a death rate of 0.5 per 1000 live births. Another important consideration is that some of the cases at RB&C did not present with overt pulmonary bleeding, but only exhibited nose bleeds. In some cases, low grade pulmonary bleeding was only detected upon extensive clinical examination. Medically, this may indicate that occult bleeding may be a much larger problem among at-risk infants than is currently understood, which suggests an even higher prevalence of PH in this community.

Prior Experience & Activities

The DOD, CCBK and CWRU have been collaborating to address indoor MM problems since 1996. The current Lead-Safe Cuyahoga Round 5 Lead Hazard Control Grant incorporates healthy homes issues like MM control which will be integrated with the UMMP. The Pediatric Pulmonology Unit at CWRU continues to lead the investigation of PH in infants and Cuyahoga County is where environmental assessment of case homes has been conducted since 1994 in conjunction with cost-effective remediation techniques which will be documented in the scientific literature. These collaborative activities are integral to the PH prevention program instituted in 1996 as recommended by the Centers for Disease Control and Prevention.

Funding Request, Scope of Work

We request 4 million dollars from HUD to remediate 170 units for MM and lead hazards, to conduct targeted education, provide high efficiency vacuums and instruction to an additional 75 families as part of a control group, and create economic opportunity for low-income residents. Approximately 270 families will receive advanced education, promoting healthy homes benefiting an estimated 675 children. A total of $2,100,624 will be leveraged to support grant dollars in this research and demonstration project, which will provide valuable science-based data on the environmental impact on homes and on the health of children associated with cost-effective MM control.

Product Outcomes/Outputs:

Approximately 270 families will receive advanced education, promoting healthy homes benefiting an estimated 675 children.