

Alliance for Innovation
Transforming Local Government 2008 Presentation Submission
Cit of Phoenix Neighborhood Services Department
Healthy Homes Demonstration Project – Social Equity and Community

Synopsis

The West Phoenix Revitalization Area (WPRA), a recently defined 52-square mile target area, lacked a resource for comprehensive housing rehabilitation to address the declining condition of owner-occupied low-income housing. Concurrently, Head Start programs serving children from the area observed a need for services addressing housing-related health and safety hazards, such as those causing or aggravating asthma attacks, unintentional injuries and lead poisoning, all of which negatively impact children's ability to perform optimally at school. The Neighborhood Services Department (NSD) applied for and received two separate grants to address the above concerns and was able to combine the resources and utilize a comprehensive approach to healthier housing for low to moderate income families with children.

In February 2003, NSD began administering a Healthy Homes Demonstration Project (HHDP) through a \$950,000 grant awarded by the U.S. Department of Housing and Urban Development (HUD) through a highly competitive process. The 3-year program evaluated 150 privately-owned homes occupied by children and remedied the identified health and safety hazards. A partnership was formed with the Phoenix Children's Hospital, a major sub-grantee to utilize a comprehensive healthy housing assessment tool, augmented existing housing rehabilitation funds, characterized unhealthy and dangerous housing elements, and conducted a grass roots public education campaign. The home assessment identified the following key targets for intervention: allergens, lead, combustion products of heating and cooking, insect and rodent pests, mold, take-home exposures to toxins, and unintentional injuries (burns, drowning, mechanical suffocation, falls, and poisoning). Homes enrolled in the program were identified by NSD housing rehabilitation programs, Phoenix Children's Hospital Breathmobile, Arizona Department of Health Services, and the city of Phoenix Head Start.

In late 2004, NSD was awarded a State Housing Fund Grant from the Arizona Department of Housing (ADOH) to address housing rehab needs in owner-occupied units in the WPRA. The 2-year \$550,000 HOME award was used to conduct substantial housing rehabilitation in 18 units occupied by low-income owners. Priority was given to households of elderly, disabled, and families with children. Activities under this program included rehabilitation and repair of structural and mechanical systems, such as heating and cooling units, deteriorated plumbing and electrical systems, roofs, property code violations related to the structure, and other repairs of deficiencies to housing quality standards.

These two programs were combined to address the underlying challenges of increased construction costs, diminished contractor capacity, decreased federal funding, and increased community need. This combined program addressed the challenges of administering two separate programs with their own individual funding source requirements and partners' mission and priorities in concert to provide an exceptional product for the end client, families of low-income children. NSD was able to surmount these challenges to deliver an innovative project that not only repaired deteriorated housing, but partnered with renowned Phoenix Children's Hospital.

Innovation/Creativity

The need to address health and safety hazards in a comprehensive manner originated with the front line staff of NSD's Lead Hazard Control Program (LHCP). Seeing the housing related needs of children whose homes were enrolled in the LHCP and not being able to address them under that program set the stage for the Healthy Homes Demonstration Project (HHDP). NSD also partnered with Phoenix Children's Hospital (PCH) in the pursuit of other grant funding to reduce asthma triggers in the homes of children diagnosed and/or treated at PCH's Breathmobile. So the concept of the HHDP developed in response to that need, and the formulation of a plan and a process was a further outcome from the development of a grant proposal. The link between child health and housing, though well-recognized, has been a difficult situation to tackle because of the chasm between governmental entities that have responsibility for the two areas.

Problem-solving took place primarily in the context of specific families and specific housing conditions through weekly case review meetings. The capacity of the families, the family dynamic and finances, and housing needs played out in real terms, which had to be considered by the program staff who brought their diverse perspectives and skills to bear in the resolution of these challenges. Creativity was driven by the needs of the children enrolled in the program and the diversity and passion of staff.

Quality Management

Initially, staff from NSD and PCH researched best practices and tools utilized by other Healthy Homes or similar programs nationwide to develop a home assessment tool that would capture relevant data. Additionally, the National Center for Healthy Housing (NCHH) was hired to conduct the evaluation portion of the project. Their biostatistician worked with staff on the data tool to refine the method of data collection. Once the tool was devised, it was independently tested by two individuals for objective/subjective results and modified based on the test. Projects were assessed utilizing the tool and brought to the project team comprised of staff from NSD and PCH. NSD provided the Housing Rehab Manager and Project Manager; PCH provided health professionals whose expertise include injury prevention, asthma, community outreach, health education, and health/home assessment. The home assessor received extensive training to assess for: structural, safety, drowning, airway obstruction, fall, and lead poisoning hazards; asthma triggers, and other health and injury threats. The team met weekly to perform case review for each project. Based on the findings of the individual assessment, a custom remediation plan was devised based on a priority system and input from each member of the team. A post-assessment visual survey and questionnaire were conducted within 6 months of intervention activities. Quality control of the data entry was performed by the NCHH.

Value Proposition

Public health departments and children's health clinics working with diseases related to environmental health are most frustrated in not being able to assess the child's home environment and provide appropriate interventions. The same is true for Head Start educators and case workers who, after conducting home inspections, learn that the child's home environment either aggravates or contributes to health and safety dangers for the child. The linkage between health and housing was first established with the Lead Hazard Control Program. The partnership led to other health related environmental relationships that identified the gaps in service to children in the community. This project provided PCH and Head Start clients with an opportunity to access comprehensive health services that included comprehensive housing rehab offered by the city of

Phoenix. Even after the conclusion of the project, the relationships remain intact and other initiatives are being pursued. The housing rehab component addressed overall housing stock and neighborhood sustainability while the expanded health and safety component addressed other environmental health issues.

Building Organizational Capacity

The city of Phoenix embraces several philosophies known as Phoenix's Vision and Values, which include: We are dedicated to serving our customers; we value and respect diversity; we work as a team; we each do all we can; we learn, change, and improve; we focus on results; we work with integrity; we make Phoenix better. These values are the spring board from which staff builds innovative programs and services. Through the successful relationships built with the lead-based paint program and the Head Start programs, our customers' (children) needs and gaps were identified. Funding opportunities were researched and a project team was identified during the grant writing stage. The team consisted of staff from PCH, the City of Phoenix NSD lead-based paint and housing rehab programs and Head Start program. Case management of each project was reviewed each week by the project team and problem-solving was conducted during case review. Tasks were carried out for each project based on the intervention plan and by the person who specialized in the particular need/area. Many of the pieces were conducted concurrently, but many were dependent on other program funding and timelines based on that funding. At a minimum, the participants were empowered with education and supplies to assist them until the more costly and time consuming interventions were provided. Goals were set and monitored by the funding agency through quarterly reporting.

Management Philosophy and Culture

The overriding philosophy of the program was to pursue service that was in the best interest of child clients. An example of this philosophy in practice is a case in which the family was referred to a public housing agency in lieu of the program's usual housing interventions, because the housing situation was so severely substandard and the family so in need of additional supportive services. Another overriding philosophy is that housing related interventions have the capacity to improve child health and safety. The validity of this theory has been well-documented in the literature. One central tenet of the HHDP program was that the services delivered should be determined by the needs of the client, not by the constraints of the identified resources. This was evident in the initial grant proposal, which sought to include virtually all suspected health and safety hazards except radon, which has been demonstrated to be a very uncommon hazard in Phoenix. As cases were enrolled and housing evaluated, previously unknown hazards were added to the list of conditions which would be addressed and solutions had to be found. A second tenet is based in health education research and recognizes that education-based remedies must be a priority of the family members and within their capacity. The result of this is that the home assessment team had to establish rapport with the family to determine in which of the remedies they would be motivated to play a participatory role. Moreover, the City of Phoenix central value "We focus on results" set the stage for innovation in the program.

Integrated Processes and Reengineering with the Use of Technology

The HHDP included a required evaluation piece to capture program performance and results of interventions. To facilitate the evaluation, Dr. Sherry Dixon, a biostatistician with the National Center for Healthy Housing (NCHH), was hired to assist with the assessment tool, develop a database to capture the pre and post data, and perform the statistical and narrative analysis of the results. A custom Access database was created by the NCHH and PCH staff was trained to

perform the data-entry. Quality control of data integrity was performed by the Center. In addition to the evaluation database, individual case management was tracked for the team utilizing an Excel spreadsheet. PCH's Community Outreach Coordinator would record the team's intervention plan and provide the team members with copies during weekly case review or by email. Due to the nature of the inter-agency team, the use of electronic mail communication became common place.

Applicable Results and Real World Advice

Our advice to other governments: (1) Base new programs on identified community needs, and engage experts in planning. The needs and capacity drive the ability of the team to innovate. (2) Build a functional team by frequent communication and maintaining focus. Weekly strategy meetings are the best way to build trust among unfamiliar partners. Case review keeps all the players concentrating on the quality and appropriateness of services to the clients. (3) Don't panic when the original strategies don't work. There are alternatives. For instance, in one of the first homes we enrolled our client was an asthmatic child with an elderly relative living in the home who was a lifelong chain smoker. Although our standard strategy of referring smoking family members to smoking cessation classes was not going to be an option, we decided to test the effect of putting a portable air filter in the child's bedroom, an option we hadn't originally considered. The family reported significant improvement in the child's asthma symptoms just from sleeping and studying in a smoke free environment.

The program performance and results were evaluated by the National Center for Healthy Housing. Ninety percent of the study homes were found to have the following hazards: no fire escape plan; no smoke detector or inoperable smoke detector; no carbon monoxide detector; no emergency numbers; vitamins, medications and household products not stored safely; bathroom door or toilet lid not secured; no first aid kit; and sharp objects accessible to young children. Post-intervention hazards were reduced to 10% or less of the homes for: no fire escape plan, no smoke alarm or inoperable smoke alarm, no carbon monoxide, no emergency numbers, and no first aid kit. Interventions reduced hazards down to 28% of the homes for storage of hazardous chemicals and 71% for an unsecured bathroom door or toilet lid. Hazards due to sharp objects were not significantly reduced. Hazards that were significantly reduced at post-intervention, but not common at baseline were unsecured window blind cords, unstable furniture, unsecured rugs and runners, and baby walkers. The program interventions were not successful in significantly reducing the following hazards: available matches and lighters, unfenced drowning hazards, unsafe storage of buckets, presence of small object choking hazards, and absence of window guards.

Structural hazards were significantly reduced. The two most common structural hazards were lack of air conditioning or cooling (reduced from 73% to 16%) and electrical outlets and cords (reduced from 63% to 7%). Other less common hazards, which were virtually eliminated at post-intervention were inoperable or poorly functioning hot water heater (20% to 0%), faulty plumbing (36% to 1%), faulty electrical (24% to 1%), leaking roof (29% to 3%), broken or improperly operating windows (25% to 1%), and dangerous appliances/electrical devices (23% to 7%).

Lead-containing consumer products were found in 15% of the study homes at baseline, but no such sources were found in any of the homes post-intervention.

Dust exposures were reduced from baseline to post-intervention in the rooms of children with asthma (95% to 8%), in the heating and cooling systems (84% to 27%) and in general housekeeping (56% to 19%).

Pest infestations and cockroach allergens were reduced from baseline (59% and 79%, respectively) to 12% at post-intervention. Prevalence of mold and mildew dropped from 59% at baseline to 1% post-intervention. Changes for presence of animals (12% to 10%) and smoking (29% to 24%) were insignificant.

A questionnaire was administered to caregivers in 63 of the homes in the study, post intervention. Ninety-seven percent of the caregivers responded that they believed their homes were safer after participating in the program. Three percent stated that they didn't know if their homes were safer. Among the parents of 46 children with asthma, 80% reported that the child was "much better" and an additional 17% reported that the child was "better." One child, a Breathmobile referral, was reported to be the "same," healthwise. Ninety-one percent of the parents believed the change in the child's health status was due to improvements in their homes. Other factors which were credited with improvement were the season of the year (21%) and new medicines (13%). Nineteen percent of the parents credited other reasons, such as moving to a new home, Breathmobile services and learning better asthma management skills.

Five homes housed EBLL children. Lead hazards were remediated in three of these using the Emergency Home Repair Program and in one home using Healthy Homes funds. One rental unit received only lead poisoning prevention education.

Two asthma datasets were analyzed, the Breathmobile analysis and complete study datasets. Although asthma severity and FEV1 did not improve for the Breathmobile group, they did for the complete study group. Number of school days missed was reduced for both datasets, and the number of hospitalizations was reduced for the complete dataset.

The summary of the evaluation states that study homes had many healthy housing hazards pre-intervention, and living conditions were significantly improved by the interventions. Low-income families were motivated to make behavioral changes to eliminate safety hazards and asthma triggers in their homes after receiving education.