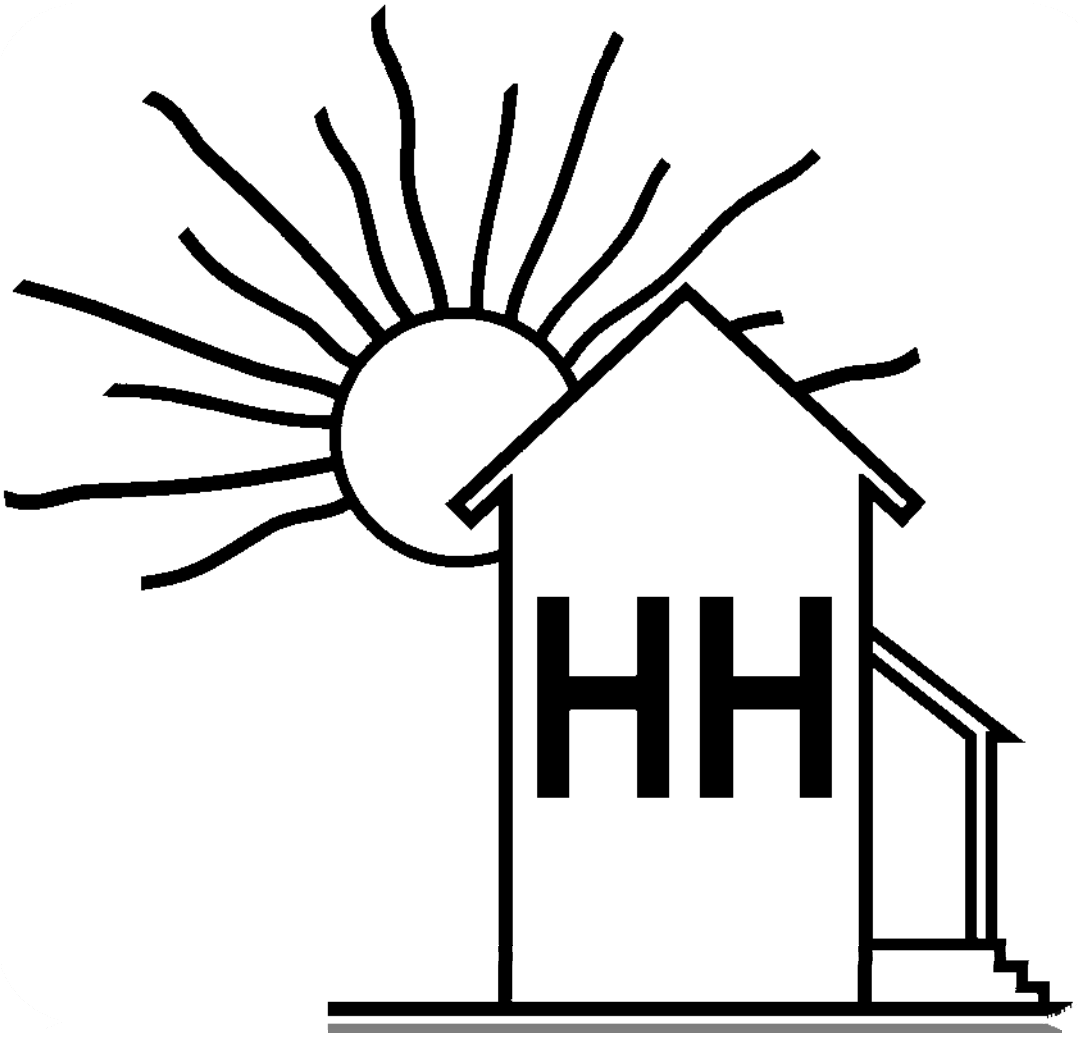

Rochester's Healthy Home:

An Innovative Hands-on Environmental Health Demonstration Project

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Executive Summary

Rochester's Healthy Home was a community-based, interactive program designed to assist visitors in identifying and addressing home environmental health hazards. These hazards, including lead and asthma triggers, disproportionately affect children of families living in low-income neighborhoods. To help improve health for these families, a partnership was formed to design a free, hands-on museum to demonstrate simple, low-cost solutions that individuals can use to reduce risks in their homes. This project, Rochester's Healthy Home, encouraged visitors to take personal actions and access existing resources to reduce hazards in their own home. Over 3500 people visited the Healthy Home during its 3 years of operation.

This report provides a comprehensive overview of the Healthy Home project from June 2006 to its closing in December 2009. Evaluation results are also discussed, demonstrating the success of this hands-on interactive model. The Healthy Home partners invested significant resources in building partnerships and developing display materials. Our intent for this report is to provide a detailed account of the process and partner experiences, share some of the gathered information, and guide others through similar initiatives in their own communities. Please see Appendix 1 for a list of additional publications.

> *As important as federal policy is to eliminate lead poisoning, it is essential that we equip parents and children with the knowledge and skills to identify home health hazards and safely eliminate them from their homes. I applaud all those who have made the Healthy Home possible on their tremendous work to safeguard our community.*
>
> – NYS Congresswoman Louise Slaughter
> During a press conference at Rochester's Healthy Home, August 2008

History of the Healthy Home

A 2002 Center for Government Research report showing lead poisoning rates of over 30% in some Rochester neighborhoods ignited a spark among lead advocates in the Rochester community. In response, the Coalition to Prevent Lead Poisoning (CPLP) was established in 2002 with the goal of ending childhood lead poisoning in Rochester by 2010. The CPLP successfully advocated for a local lead poisoning prevention law, which unanimously passed through Rochester City Council in December 2005 (Korfmacher, 2006). The lead law is one of only a few local lead laws in New York State. It requires pro-active identification and repair of lead hazards in all pre-1978 rental housing. The law emphasizes low-cost strategies and ongoing monitoring to insure lead safety. However, the law depends on property owners understanding how to safely address lead hazards, and relies on referrals to local government agencies from residents, doctors, and community groups. Despite the Coalition's efforts, there was still a lack of understanding among community members about how to comply with the law and protect their families.

The Southwest Area Neighborhood Association (SWAN), University of Rochester Environmental Health Sciences Center (UR), and the Rochester Fatherhood Resource Initiative (RFRI) saw an opportunity to collaborate in developing a direct action project to combat lead poisoning through community education. At the time, UR had been involved in a local Get the Lead Out (GLO) project. The project was initiated by a physician working in a city school in one of Rochester's high-risk neighborhoods. In response to a survey that found 41% of his students had elevated blood lead levels, the physician developed the GLO project, which focused on lead education for community residents. GLO constructed a temporary "lead lab" in a vacant home

to demonstrate for visitors low-cost lead hazard controls, dust wipe testing and risk assessments, lead safe cleaning techniques, and lead safe work practices. The success of the "lead lab" demonstrated that using visual, hands-on examples of hazards is an effective way to teach environmental health issues to community members.

Although motivated initially by concerns about lead, the Healthy Home (HH) partners were aware of national efforts to integrate treatment of lead hazards with other home-based environmental hazards, and of addressing housing hazards as a health issue (NCHH, 2011). This emerging "healthy homes" concept addresses health hazards in the home using a multifaceted approach.

The HH partners agreed that the City of Rochester would benefit from a more permanent facility than the lead lab that could provide hands-on education about environmental home health hazards for multiple audiences. The partners developed the concept of a model Healthy Home that would be used to demonstrate multiple home environmental health hazards in addition to lead. The Healthy Home partners aimed to educate, motivate, and support visitors in taking action to improve environmental health in their own homes. The HH partners were careful to document the project development process to assist other communities develop similar initiatives. Rochester's Healthy Home was for not only community residents, but also professionals from various backgrounds who might be able to integrate healthy homes education with their work. Doctors, nurses, property owners, community groups, and professionals from government agencies, health care systems, housing groups, and human services agencies, among others, toured the Home and learned how home environmental health influences overall health and well-being.

SWAN, UR and RFRI met regularly during a year-long development process to work these goals into a concrete plan. They explored several options for physically locating the Healthy Home, including buying a building for this purpose, co-locating in an existing community center, and renting space. Meanwhile, the partners developed a model for the types of educational displays that would be included in the Healthy Home, the kinds of information to be provided, and the issues to be addressed (Appendix 2). For each hazard, they synthesized information about specific health consequences, how to address the hazard at low cost, and relevant resources available in the community.

The partners agreed that the Healthy Home should be located in one of Rochester's highest risk neighborhoods. Accessibility, parking, and space were also important. Once the HH was established, the HH partners focused on attracting visitors. Tours of the HH included information on common home environmental hazards, hands-on demonstrations, and issue-specific referrals for those who needed help addressing hazards. To help visitors overcome some of the many barriers to achieving healthier home environments, tours focused on demonstrating simple, low-cost solutions.

Establishing the Healthy Home

Funding

The Healthy Home was resource intensive, requiring committed personnel and substantial financial resources. The most costly parts of operating the HH were the full time program manager and rent. Recognizing from the beginning that the resources required to maintain the Healthy Home made it an unsustainable long-term project, the partners planned

for a time-limited facility from the outset. The partners wrote numerous grant proposals to support the HH. In December 2005, they received their first grant of $15,000 in pilot project funding from the University of Rochester's Environmental Health Sciences Center. This award allowed the group to secure a facility for the HH and begin work on developing displays. In their search for an ideal location, the partners decided to rent space in a commercially zoned house that was large enough to accommodate tour groups and displays, but still looked like an older residential building. The partners had discussed purchasing a home in hopes that it would ultimately reduce facility costs, but decided that ownership, maintenance and liability were not feasible for their organizations. Working with a property owner who had been interested in the project for several years, they were able to rent 1200 square feet of space on the first floor of a house located centrally in the SWAN neighborhood, convenient to a bus line, and adjacent to free parking. While it had the physical features of an older home, such as wood windows, it did not require extensive repairs. This particular house was a large residence built in 1893; it had previously been converted to commercial space on the first floor with five upstairs apartments. Beyond the pilot grant, the Healthy Home received substantial funding from several sources to support the model. Overall, the Rochester Healthy Home cost about $65,000 per year to operate (around $15,000 for rent and insurance, $40,000 for staff salary and benefits, $5,000 for administrative support, and $5,000 for evaluation, reporting, and technical support) in addition to significant in-kind support including displays, core team and HHAC member staff, additional administrative overhead, and interns. For groups considering implementing their own Healthy Home project, costs might be very different. For example, using an existing space owned by the group would eliminate rent; it might be possible to share staff or to generate

income by charging for training events in some cases. Staff (program managers, interns, evaluation, etc), facility (rent, insurance, phone, electric, etc) and program expenses (printing, project supplies, etc) were covered by grants through the New York State Department of Environmental Conservation (DEC), the Monroe County Department of Public Health (MCDOPH), the New York State Health Department (NYSDOH), the Rochester Area Community Foundation (RACF), and the Environmental Protection Agency (EPA). Although the Home had multiple funding sources, it relied heavily on one substantial award (from EPA's Environmental Justice Collaborative Problem-Solving Grants Program) that provided $100,000 over three years. The EPA award also supported staff time for reporting and evaluation after the Home closed. In addition to these major funding awards, many small foundation and government grants supported special projects at the Healthy Home.

Staff

A team of UR and SWAN staff (core team) met weekly to manage the short-term operation and projects of the Home. Dedication and regular meetings from the core team staff were the driving force behind the Healthy Home. When the Healthy Home opened to the public in June 2006, there was no paid staff dedicated to operation of the project; all tours were conducted by the core team, interns, and volunteers. The Healthy Home received three additional grants in 2006 to support community youth-adult partnerships, refer Healthy Home visitors with asthmatic children to the Regional Community Asthma Network, and enhance outreach to the local community. With these funds, SWAN was also able to hire a HH Program Manager to take over administration of the project. Corburn, Jordan *et al* and Claudio *et al* had

previously demonstrated that education by professionals might not be as effective as education by peers or community leaders (Corburn 2005; Jordan et al. 2003; Claudio et al. 1998), so it was important for this staff person to be from a community organization. The Healthy Home also employed interns and volunteers from the Rochester community to give tours and run special projects. Youth interns were particularly effective in educating young children and reaching out to their peers. Additionally, the University of Rochester Urban Fellows program made it possible for the Healthy Home to employ college interns to work on specific projects during the summers. UR staff remained active in the Healthy Home, and helped provide continuity and evaluation of the project. The strength of this partnership helped the Healthy Home remain in operation during stressful periods. For example, when one Program Manager left and SWAN was in the process of hiring and training a new Program Manager for the Home, UR staff were able to help keep the project running by staffing the Home and training new staff.

The core team established a Healthy Home Advisory Council (HHAC) of diverse organizations to provide technical input on information in the displays and assistance in reaching potential visitors. The HHAC also served as a primary strategy for increasing health promotion beyond the Home, integrating Healthy Home messages into the members' outreach activities. For example, the Regional Community Asthma Network, which conducts home visits to help children combat asthma, began expanding its inspections to include other home environmental health hazards. Representatives on the Advisory Council were from diverse fields, including health, housing, government, and community outreach. New members were added throughout the project, with over 30 members by the time the HH closed in 2009. For a complete list of HHAC members, see Appendix 3. HHAC members met monthly to ensure the

Healthy Home remained effective and relevant to the community's needs, and made referrals to the Home for their own clients. Members became familiar with the Healthy Home information as well as each other's missions in order to make more effective referrals for clients. Healthy Home staff planned that HHAC members would be ready to incorporate Healthy Homes into their own outreach programs by the time the Home closed. Partners also benefitted through access to the Healthy Home for program space to host meetings and events.

The core team recognized that creating and maintaining a strong partnership can be challenging. In response to this concern, the partnership was based on an agreed upon set of "Principles of Collaboration" which guided their work together (Appendix 4).
The HHAC members also signed "Memoranda of Understanding," which summarized each organization's missions and previous collaborative efforts, and outlined their roles as advisory council members. For example, the Memoranda of Understanding addressed whether the group's staff would be trained, bring or refer clients to visit the home, or integrate HH into their ongoing activities.

Tours

Before the Healthy Home opened, most environmental health information was provided to the community through forums such as health fairs and educational brochures; however, such venues do not appear to be effective in increasing action to address home-based environmental health hazards (Himes et al. 1996). This is particularly true in low-income and minority communities where literacy rates are low (Institute of Medicine, 2004). Likewise,

much of this information focuses on specific health hazards (e.g. lead, asthma or fire hazards) without considering all possible issues in a home.

One alternative for HH education that many groups have tried is home visits. Home visit programs can be effective in educating individuals and encouraging action, particularly when program staff can point to specific issues in a home and demonstrate how to address them. These programs, however, can also be very resource intensive and therefore are usually limited in scope, serving a small number of clients. Rochester's Healthy Home was designed to capture the home visit concept of visual, hands-on examples that visitors can easily relate to, while increasing reach by reducing the resources required to educate each person. Rather than visiting individual homes, the Healthy Home project supplied the home and invited visitors in. This model also helped to reduce trust barriers that can sometimes stymie with home visiting programs.

Home environmental health is a complex topic. Reducing environmental home health hazards can be complicated by the fact that solutions require coordination between technical and behavioral change, improving landlord-tenant relationships, or developing individualized responses. Likewise, unless a holistic approach is taken, solutions to one problem may create or worsen others. For example, residents may try to control pests through more extensive use of chemical cleaners that turn out to trigger their children's asthma. These issues are also often technically complex, involving knowledge ranging from law to toxicology to home construction. Developing educational materials that address complex problems in a holistic yet accessible manner is a challenge.

Healthy Home staff spent several months developing displays designed to address these challenges by providing visitors with holistic strategies to reduce environmental hazards in their specific housing situation. The materials and solutions were designed to focus on the circumstances of low income tenants in older urban housing; however, they were relevant to a much broader audience as well. Being able to see a variety of different hazards all at once helps visitors understand how they can interact in a home. HHAC members provided technical input in their areas of expertise, and donated materials to 'their' displays. The Coalition to Prevent Lead Poisoning, Injury Free Coalition for Kids, Monroe County Department of Public Health, Regional Community Asthma Network, and the Rochester Fire Department were particularly active in this process. Displays developed included highly visual posters and hands-on displays reflecting the contents of the posters. Hazard-specific checklists were included at each station for visitors to take home. Staff designed all written materials to be no higher than a 5th grade reading level.

When visitors came into the Healthy Home, they signed in, took a tour, and filled out evaluation forms and action plans. A typical tour ranged from 45 minutes to an hour, though some were longer or shorter depending on the needs of the visitor(s). Tour guides described ways of reducing specific hazards (e.g., using covers to keep dust mites out of pillows) as well as actions that address multiple hazards (e.g., two-bucket mopping and wet dusting to decrease asthma triggers and lead dust hazards). Tour information was based on the concept that the most effective

> "Some people really need a hands-on way of learning. They need to be able to touch, (or) see, more than reading or hearing."
>
> – Eleanor Coleman, SWAN

course of action is often prevention. HH tour guides tailored their messages to address barriers that different groups of visitors might face. For example, tours for groups of teen mothers emphasized different issues and actions than tours for property owners and contractors. Likewise, HH tour guides recognized that behavioral changes may depend on social dynamics in the home or culture. For example, it may be difficult for an asthmatic resident, particularly a child, to persuade family members to stop smoking indoors. Tour information was therefore also tailored to individuals or groups based on social situations (e.g., renters or owner-occupants) to help visitors find productive actions for their specific circumstance. Suggestions offered through the Healthy Home followed a holistic approach, aimed at reducing hazards without introducing others and, where possible, employing strategies that address multiple hazards at once.

Limited financial resources can also impede reduction of environmental hazards in the home. Although some solutions are primarily behavioral, others may require physical changes. Some physical changes are relatively inexpensive, such as new kinds of cleaning agents, dust mite pillow covers, new furnace filters, and child safety locks. However, even these items may be too expensive for low-income residents. Likewise, some physical changes are likely to be cost-prohibitive for some owner-occupants or investor-owners (e.g., improved ventilation for mold control, lead paint hazard control, and use of a HEPA-filtered vacuum). The Healthy Home had limited resources for directly assisting visitors with cost barriers, but materials were provided where possible. Program staff maintained a HEPA vacuum loan program, and some small program grants provided for giveaways. For example, a project that brought refugee

families to the HH provided visitors with sealed plastic bins for rice storage, mops, mousetraps, buckets, toilet brushes and non-toxic cleaners.

In general, the Healthy Home focused on making individualized referrals to community resources equipped to address specific needs. This included organizations offering weatherization and lead hazard control grants, home visiting programs for asthma, and other services. Many of these organizations were represented on the HHAC, and also referred their clients to the Healthy Home. This strong partnership helped connect Rochester residents to effective resources. Likewise, actions suggested during tours focused on low-cost strategies, emphasizing that not all actions to reduce hazards have to cost a lot of money.

A typical tour began with a brief discussion about the visitors' specific interests. Tour guides then led visitors through the Home, discussing information on the posters, and answering questions while visitors interacted with the displays. The main areas of the HH are described in Table 1.

Table 1: Main tour rooms and displays in Rochester's Healthy Home

Room	Displays	Environmental Hazards Addressed
Asthma-Safe Bedroom	Asthma-safe bed, emergency asthma treatments, smoking cessation, child safety crib, cleaning	asthma triggers; child safety; cleaning for dust, lead, and mold
Lead Room	Lead poisoning	Deteriorated lead paint; lead in dust; lead in soil
Basement	Indoor air quality	asbestos; carbon monoxide; radon; furnace
Kitchen	integrated pest management; chemical look-alikes; chemical storage; nutrition	chemicals; pests; nutrition

A typical tour began with the "asthma safe bedroom," which included a bed with dust mite mattress and pillow covers, a healthy housekeeping station, smoking cessation information and examples of asthma triggers (pets, stuffed toys, plants, etc). There was also a child safety display demonstrating safe cribs, and child safety devices for the home. The room itself was designed to demonstrate what an asthma-safe bedroom should look like. A smooth wood floor (no rugs), uncluttered shelves and sealed bins for toys demonstrated how to reduce dust and allergens in the room. The walls and baseboards were also visible, demonstrating an effective component of integrated pest management (keeping clutter down to reduce shelter, and making it easier to catch signs of pests, mold and other issues early).

The "asthma safe bedroom" also contained a healthy housekeeping display. Discussions of allergens and asthma triggers in dust were the perfect transition into discussing safe cleaning techniques to reduce these hazards. This display described working wet to reduce dust hazards (allergens, lead) and mopping with two buckets. The display also addressed safe chemical use, and showed examples of non-toxic ingredients visitors could use to make their own inexpensive cleaners.

Visitors then moved into the "lead room," which featured three windows mounted on stands. One window demonstrated what leaded paint might look like when chipping and peeling. The second demonstrated interim controls, and the third showed a replaced (abated) window. Each window included cost estimates for the control options. The room also included sample materials and information on lead safe work practices, displays about lead safe gardening, and samples of consumer items that could contain lead. This room also served as the primary meeting space for events at the Home.

After the lead room, visitors went into to the "basement/air quality display," where they learned about mold, radon, asbestos, furnace filters, and carbon monoxide and fire hazards. This room also contained a display demonstrating what visitors should look for in a furnace filter, what a dirty filter looks like, and which types of filters to avoid using. Visitors could also see a radon test kit and carbon monoxide detector. Photographs of mold and asbestos gave visitors a sense of what to look for when checking for these hazards.

Lastly, visitors went through the "kitchen" where guides demonstrated Integrated Pest Management (IPM) techniques, and food and chemical safety (preparation, use and storage). The kitchen also included displays on good nutrition. Tour guides were provided with materials and training to help them give comprehensive tours and answer visitor questions. A full description of the displays is included in our Guide to Replication (Appendix 5); photographs of several displays are in Appendix 6. At the end of the tour, visitors were asked to complete an evaluation and an action sheet that described one or more actions they planned to take to improve the environmental health of their home. Visitors were also asked if they were willing to be contacted to follow up on their planned actions.

Beyond the basic tour information, all features of the Healthy Home encouraged "healthy behaviors." For example, when visitors used the restroom they saw signs about proper hand washing to help reduce lead, and learned how vent fans help improve indoor air quality. When funding provided snacks for groups, healthy foods such as fruit or vegetables were arranged.

Projects at the Healthy Home

Visitors primarily found the Healthy Home through referrals or recommendations from HHAC members and other community groups (Table 2). Others saw fliers, heard about it in the news or from friends, or visited through work. Healthy Home staff extended invitations to government agency staff, school leaders/educators, health care providers and other professionals. The Healthy Home program manager held semiweekly "open hours" where individuals could visit the home without an appointment, and scheduled tours for other times during the week. Maintaining a schedule helped provide access for multiple groups while ensuring each visitor's needs were adequately tended to. It also allowed the program manager to schedule time as needed for administrative and logistical duties.

Program staff and the core partners constantly sought additional funding to help increase community exposure and attract a wider range of visitors to the Healthy Home through various projects. Although it was typically SWAN or UR that acted as the principal organization for these funding awards, both partners played a major role in most grants. Evaluation services, technical expertise and program support through UR, combined with the community outreach expertise of SWAN staff contributed to the success of these programs. These projects greatly increased visibility in the community, and ultimately attracted more than three times the original target number of visitors to the Healthy Home. Over 3500 visitors took tours at the Healthy Home, and program staff collected 1861 evaluation forms. The rest of this section describes special events hosted by the Healthy Home, and many of the projects supported by additional funding.

Table 2: Referral sources to healthy home (multiple responses allowed; excluding refugee data*)

	Year 1 (N_1 = 351**)	Year 1 %	Year 2 (N_2 = 514)	Year 2 %	Year 3 (N_3 = 474)	Year 3 %	Total (N = 1339***)	Total %
community group	69	19.7%	116	22.6%	91	19.2%	276	20.6%
flier	10	2.8%	4	0.8%	2	0.4%	16	1.2%
school	29	24.4%	69	13.4%	10	2.1%	108	9.8%
news	15	4.3%	3	0.6%	2	0.4%	20	1.5%
family/ friend	71	20.2%	17	3.3%	8	1.7%	96	7.2%
City of Rochester	0	0%	36	7%	29	6.1%	65	5.9%
work	73	20.8%	119	23.2%	94	19.8%	286	21.4%
other	111	31.6%	158	30.7%	248	52.3%	517	38.6%

*All referrals for refugee visitors came through the Catholic Family Center. Data was removed to avoid skewing results.
**N = 119 for categories "school" and "City of Rochester." These were added during Year 1.
***N = 1107 for categories "school" and "City of Rochester."

Special Events

During its first year, several events were hosted by the Healthy Home to help bring visitors. In June 2006, the core team planned an opening event that attracted over 80 people, including elected officials, residents, community groups, and the news media. This high-profile event helped generate community interest in the Healthy Home. During the summer of 2006, two medical student interns helped develop evaluation protocols and trained volunteer tour guides. This team coordinated 13 student and community volunteers who logged over 185 hours during the summer. The team also initiated an annual barbeque, where visitors toured the Healthy Home and enjoyed free food.

Over the years, other events at the Home included meetings hosted by community organizations. For example, several block clubs, the Water Education Collaborative Board, the Center for Environmental Information Board, and the Rochester City School District

Superintendent's Cabinet all hosted meetings at the Healthy Home. The Healthy Home also hosted several informational meetings in preparation for major changes affecting environmental health in the community. When the EPA passed its new Renovation, Repair and Painting Rule to regulate work done on homes built before 1978, Healthy Home partners organized a meeting of lead and housing professionals to discuss how this new law would influence lead work in the community. The discussions revolved around how the RRP rule might interact with Rochester's lead law, and ways to incorporate and raise awareness for the new law. Another special interest meeting hosted by the Healthy Home provided an overview of refugee culture and society for SWAN and city school district staff to help them prepare for an influx of new refugee students in light of a city school closure. UR arranged a "Home Safe Home Party," where a guest speaker from the Just Green Collaborative, a statewide group, talked with residents about green cleaning, how to reduce chemical exposures in the home, and how to make your own safe cleaners.

The Healthy Home also welcomed several "special visitors" who helped to increase the Home's credibility and exposure in the community. Local visitors included Robert Duffy, City of Rochester Mayor; Dr. Joel Seligman, UR president; Jean-Claude Brizard, Rochester City School District Superintendent; and Congresswoman Louise Slaughter. The Home also gained national recognition, attracting visitors such as Rebecca Morley, National Center for Healthy Housing, Executive Director; Dr. Warren Friedman, U.S. Department of Housing and Urban Development (HUD), Senior Advisor to the Director of the Office of Healthy Homes and Lead Hazard Control; Roy Bernardi, HUD, Deputy Director; Dr. Philip Landrigan, Director of Mt. Sinai Center for Children's Health and the Environment; and various staff members from NIEHS. Toward its end,

Rochester's Healthy Home hosted a special event for Monroe County Legislators to demonstrate some of the major successes of the project.

Outside the Home, staff, partners, volunteers and interns visited several community health fairs, farmers' market events, and presented at several conferences. HH staff also gave many off-site trainings with an "on the road" healthy homes kit for groups that were unable to make it to the Home. This mobile kit was used at health fairs and other community events as well. Healthy Home representatives at UR and SWAN were guests on the "Healthy Friday" show on local public radio. The Healthy Home program manager also worked with a HHAC member to arrange healthy homes presentations at Camp Broncho Power, a local summer camp for children with asthma.

Lead Safety

The importance of reducing lead hazards was a key message of Rochester's Healthy Home. To help enforce this message, Healthy Home staff were actively involved in lead awareness throughout Rochester. The Healthy Home core team were active members of the Coalition to Prevent Lead Poisoning (CPLP) and worked in conjunction with CPLP for several city events.

Events at the HH also strengthened awareness in the community. For example, one of the Home's original partners, RFRI, hosted seven free Lead Safe Work Practices (LSWP) courses at the Home in 2006. These classes were supported by Atrium Environmental Health and Safety Services, and taught 67 contractors how to safely repair or remove surfaces painted with lead-based paint.

The HH also served as a base for the City's "Lead Safe Saturdays" program, where volunteers went door to door in some of Rochester's highest risk neighborhoods to raise lead awareness in the community. In 2008 and 2009, the Healthy Home participated in local events recognizing National Lead Poisoning Prevention Week. The Home opened its doors for additional tours, provided materials at other organizations' events, and hosted a press conference on the importance of lead. During this week, youth volunteers invited friends to visit the Healthy Home and take tours with their peers. Other events such as the RRP meeting described above supported Rochester's efforts to reduce childhood lead poisoning.

Refugee Outreach

Rochester has seen an influx of refugees from a number of countries over the past ten years. One of the largest local communities, Burmese refugees, has over 350 families currently living in Rochester. Catholic Family Center (CFC) runs a program to work with Burmese refugees during their first 6 months in the country, helping them obtain jobs and find affordable housing while adjusting to Western culture. Because of limited resources, CFC is unable to remain connected with the families after 6 months. However, it takes far longer than half a year to grow accustomed to local customs, learn a new language, and settle into a society.

One major issue faced by refugees is the differences in housing between western cultures and refugee camps. Such cultural differences can lead to unsafe food handling and storage practices, inadequate cleaning and maintenance of homes, increased pests in the home, and increased risk of exposure to environmental health hazards (particularly lead and unsafe chemicals).

In 2009, the Healthy Home was awarded a $15,000 grant from Monroe County Department of Public Health to conduct "Lead Education and Outreach for Refugee Families" in Rochester. The Healthy Home program manager worked closely with CFC to design and implement this project. Initial meetings with CFC caseworkers outlined some of the environmental health challenges facing refugees in Rochester, and helped develop a list of topics that the tours should cover. Healthy Home staff also met with property owners who rent to refugee tenants to find out the biggest challenges in renting to tenants of different cultural and language backgrounds. Based on these conversations, the program manager developed a tour "curriculum" supported by visual examples and hands-on learning experiences. The Healthy Home also worked with CFC to hire and train interpreters in the native languages of visitors. Initially the grant was to focus on Burmese refugees, but was later expanded to include Somali and other groups as well.

The tours focused on lead safety (relating to lead in dust/paint and imported products), safe and effective cleaning techniques to reduce lead and asthma triggers while minimizing exposure to toxic chemicals, integrated pest management, food preparation, and fire/carbon monoxide safety. To demonstrate proper hand washing, the program manager used a kit with lotion that glows under a black light if not washed off properly. For two-bucket mopping, visitors were shown a few different types of mops and how to use them, then were allowed to practice mopping. Groups were also able to practice safely baiting and setting mousetraps. After visitors had filled out evaluations and discussed action plans, the events were concluded with a "fire drill" – the program manager would set off the fire alarm (so visitors would recognize the sound if they heard it) and visitors exited the home.

Housing Professionals

The importance of reaching out to housing professionals, particularly property managers and contractors, was clear early on. Most home environmental health hazards tend to be associated with older homes in poor condition, and rental properties tend to be higher risk than owner-occupied housing. Because addressing some home environmental health hazards often requires safely making physical changes to a property, it is important for owners to understand the consequences of and solutions for home environmental hazards. Likewise, some hazards can be increased when work is done on a home. Tour guides encouraged tenants to develop a relationship with their property owners, while emphasizing the tenant's role in maintaining a healthy home as well. From the outset, Healthy Home staff reached out in an attempt to attract housing professionals to the home, but found it particularly difficult to attract this group.

In 2009 the department of Environmental Conservation (DEC) Environmental Justice office funded a $50,000, project, "Leveraging Housing Programs to Create Healthier Homes." The Healthy Home had previously built strong relationships with Neighborworks Rochester, Environmental Education Associates and other programs that serve housing professionals. The initial aim of the project was to develop a referral system through existing housing programs to encourage professionals to visit the Healthy Home. After struggling to increase numbers through the grant, project staff met with housing organization staff to discuss ways to improve the program. After talking with referring agencies, it was clear that housing professionals were interested, but were too busy to visit the HH. The project was adjusted to integrate the healthy homes message into existing training programs. A one-hour training PowerPoint was developed

and used in conjunction with the Healthy Home's "on the road" kit. Rather than invite housing professionals into the Home, the program manager visited full-day training courses at other organizations to conduct the training during the class lunch break. Lunch was provided to enable participants to stay the full hour. This training approach was successful, and was later incorporated into a two-year contract with MCDOPH to train over 1400 additional individuals after the Healthy Home closed.

Youth

Understanding that one effective means of educating adults is through their children, Healthy Home staff encouraged youth to visit the Healthy Home. This approach also complemented SWAN's commitment to developing the capacity of local youth. Halfway through the first year, a "kid-specific" tour and special evaluation form were developed. Several groups of youth toured the Home, and youth interns became very involved in summer projects and bringing other kids to the Home. Interns developed games to play with younger visitors after tours as a way of reviewing the information. Successes with reaching out to younger visitors led to some independently funded projects.

> "You're never too young to take action."
> – Youth Intern

During the summer of 2008, the Healthy Home received a *Social Justice Outreach Grant* from the First Unitarian Church of Rochester. This $1,000 award allowed a SWAN intern from UR to run "Snapshots," a program for children from the SWAN summer day camps. The kids were brought to the Healthy Home to learn about home health hazards. They were then given

single-use cameras (donated by Eastman Kodak) and asked to take pictures of healthy and hazardous things they saw around their homes and neighborhoods. The kids used their experiences and photos to make posters about home environmental health hazards. Snapshots youth were encouraged to bring their parents to the Healthy Home.

Many of the games used for kids appealed more toward younger kids. One youth intern decided that she wanted to find a way to make the Healthy Home more attractive to high-school kids. In 2008, she applied for and received a Youth as Resources (YAR) grant to fund "It's a Health Thing." This $1,000 award supported the development of a Healthy Home Jeopardy™ game. Interns worked with the Healthy Home program manager to develop fun and appropriate questions, and fit them into a Jeopardy™ template. The project originally included production of a Healthy Home video to go with the game, but this proved too logistically limiting. The game has been widely successful in engaging older kids and adults in learning healthy homes information. Healthy Home staff used the game at health fairs and other events to attract attendants. The game also worked well as a way of engaging older youth during discussions after tours.

Work Experience Program

Among its many other programs, SWAN is also a host agency for the Department of Health and Human Services (DHHS) Work Experience Program (WEP) site. Clients receiving DHHS benefits (e.g., income or housing assistance) are required to go through this program, which teaches job skills and helps place clients in internships. Most host agencies conduct a brief job skills training with their clients spanning only a few hours. The WEP program manager

at SWAN recognized a need to help clients overcome several other barriers in order to find and maintain gainful employment. She created a full-day program to expand beyond job skills, teaching self-esteem, hygiene, interpersonal relationships and other skills. However, other important factors, such as family health, also greatly affect an individual's ability to work. For example, asthma in Rochester is a significant contributor to school and work absences. Reducing asthma symptoms and attacks for the child or parent can therefore help parents maintain employment by improving work attendance. SWAN saw such connections between employment and health as an opportunity to increase exposure to the Healthy Home, as well as help improve the health of its clients. WEP was collocated with the Healthy Home (occupying a separate room on the same floor); WEP trainings took place in the HH's "lead room," and WEP interns took a tour of the Home as part of their full-day training.

Other Projects

The Healthy Home was constantly evolving to meet the needs of visitors. In addition to the programs listed above, the Healthy Home also worked to incorporate new displays to address emerging health concerns in the community. For example, Foodlink (a local food bank) partnered with Healthy Home staff to create a "kitchen" display promoting nutrition and obesity prevention. Displays demonstrated healthy foods and appropriate portion sizes. Head lice has also been a growing concern for members of the community. A UR student developed a display addressing health and safety concerns relating to many home remedies and chemicals for lice treatment, such as putting kerosene or pesticides on the child's hair to kill the lice. The display encouraged appropriate use of products proven to be safe for children and effective

against lice. The Healthy Home program manager also developed a bed bug display in 2009 in response to visitors' concerns. She had noticed an increasing number of people asking questions about the pest, and had been hearing more from MCDPH and other sources about the rise in local infestations. Because of the cost and energy required to address bed bugs, the display focused on prevention of infestations. The display also encouraged use of integrated pest management (IPM) and working with a professional to address bed bug problems. Healthy Home staff strongly discouraged the use of strong chemicals in all pest cases, promoting IPM as an alternative.

Impacts

After tours, the program manager asked visitors to fill out evaluations and action plans. The purpose of collecting this information was to track visitors' responses to the Healthy Home displays, and to encourage visitors to take their own actions toward improving environmental health in their own homes. "Action plans" were simple forms on which visitors indicated what action they intended to take as a result of their visit to the HH. HH staff kept a copy of each "action plan" and visitors took a copy with them. These forms also included a list of resources to help complete home health improvements (Appendix 7). Staff then conducted follow-up calls with visitors regarding the action plans to determine whether they had taken their planned action(s). Because home visits are so resource-intensive, follow-ups with visitors had to be conducted via phone or email. Thus, self-reports of physical and behavioral changes made in response to the Healthy Home were the primary measure of individual impacts.

When developing the Healthy Home concept, the core team anticipated a visitor rate of about 350 per year. By the time it closed in December 2009, 3,716 visitors had signed in. Community residents were by far the most common type of visitor, covering about one third of the total visitors. Many health care professionals and youth also visited the Home. Table 3 summarizes the types of visitors to the HH.

Sign-ins were categorized by the program manager to document the visitors' primary reasons for visiting the home. However, it was also important to understand how visitors identified themselves with respect to an interest in the Healthy Home. For example, while the program manager might have identified an individual as a Health Care Professional in the sign-ins, that individual might have also identified themselves as someone who has a child under the age of six and rents an apartment in the City of Rochester. Table 4 summarizes visitors' self-identification. Tracking this information gave Healthy Home staff a better sense of overall community impact. For example, knowing that children are particularly at risk for most environmental health concerns, it is important to note that nearly a third of the visitors were parents of a child under six.

Table 3: Type of visitor from sign-in sheet (DEC and Refugee special projects listed separately)

Target Audiences	Year 1	Year 1 %	Year 2	Year 2 %	Year 3	Year 3 %	Total	Total %
Health Care Professionals	216	29.2%	141	11.3%	218	12.6%	575	15.5%
Youth (K-12)	140	18.9%	295	23.6%	168	9.7%	603	16.2%
Students (higher education)	32	4.3%	79	6.3%	18	1.0%	129	3.5%
Housing Professionals	99	13.4%	46	3.7%	63	3.6%	208	5.6%
Community Residents	130	17.6%	471	37.7%	722	41.8%	1323	35.6%
Other	123	16.6%	217	17.4%	185	10.7%	525	14.1%
Housing Professionals under DEC grant**	-	-	-	-	113	6.5%	113	3.0%
Refugees under MCDOPH grant**	-	-	-	-	240	13.9%	240	6.5%
Total	740		1249		1727		3716	

*In 2009, the Healthy Home received funding from the New York State Department of Environmental Conservation to focus on bringing housing professionals (particularly property owners, contractors and renovators) to the healthy home.

**In 2009, the Healthy Home received funding from the Monroe County Department of Public Health to train interpreters and bring members of refugee communities through tours in their own languages.

Table 4: Type of visitor from Evaluation Form (multiple answers allowed; excludes refugee data*)

	Year 1 (N_1=355)	Year 1 %	Year 2 (N_2=534)	Year 2 %	Year 3 (N_3=480)	Year 3 %	Total (N=1369)	Total %
Parent of a child under 6	48	13.5%	119	22.3%	188	39.2%	355	25.9%
Community Member	99	27.9%	176	33.0%	114	23.8%	389	28.4%
Contractor	12	3.4%	14	2.6%	17	3.5%	43	3.1%
Job Trainee**	15	4.2%	77	14.4%	131	27.3%	223	16.3%
Professional	88	24.8%	110	20.6%	82	17.1%	280	20.5%
Teacher	39	11.0%	24	4.5%	5	1.0%	68	5.0%
Student (Elementary or College)	89	25.1%	57	10.7%	27	5.6%	173	12.6%
Other	44	12.4%	111	20.8%	56	11.7%	211	15.4%

* This question was omitted for refugee visitors to simplify the evaluation process.
**Job trainees were primarily WEP interns.

As previously discussed, the Healthy Home partners understood early on that hands-on, interactive learning can be an enormously effective way to teach environmental health information. As a means of better understanding how the displays in the Home influenced visitors' understanding of the topics, one evaluation question asked visitors to circle the "most useful" parts of the Healthy Home (Table 5). "Posters" were overviews of the hazards and strategies for addressing them, and contained many pictures. "Display items" were physical items within the display that the tour guides and visitors could manipulate. "Small signs" were notices throughout the Home providing additional tidbits of information (e.g., signs on the bathroom sink and vent fan). "Checklists" were available at each display and contained a short, bulleted list describing what to do in order to address the specific hazard. Lists included resource information for additional help. The Healthy Home also maintained a brochure rack with informational brochures for many of the home health hazards demonstrated in the Home. While giveaways appear to have been unpopular, we suspect this low response is because many groups that went through the Home did not receive free giveaway items due to funding barriers; those who did receive giveaways were extremely appreciative.

By far, the most highly rated components of the Healthy Home were the display items and tour guides, supporting the understanding that personalized hands-on education is effective. It is important to understand this component when considering replication of the Healthy Home, since the greatest budget expenditures were staff and facility costs. Likewise, most of the other Healthy Home components were still largely useful to visitors. Thus, having the information displayed and available in several different ways can be an enormous asset to a project.

Table 5: Most 'useful' part of the Healthy Home (multiple responses allowed; excludes refugee data*)

	Year 1 (N_1 = 352)	Year 1 %	Year 2 (N_2 = 503)	Year 2%	Year 3 (N_3 = 470)	Year 3 %	Total (N = 1325)	Total %
posters	167	47.4%	164	32.6%	142	30.2%	473	35.7%
display items	241	68.5%	270	53.7%	258	54.9%	769	58.0%
small signs	72	20.5%	102	20.3%	74	15.7%	248	18.7%
checklists	94	26.7%	105	20.9%	112	23.8%	311	23.5%
tour guides	250	71.0%	338	67.2%	261	55.5%	849	64.1%
brochures	127	36.1%	124	24.7%	160	34.0%	411	31.0%
giveaways	57	16.2%	61	12.1%	53	11.3%	171	12.9%
Other	23	6.5%	30	6.0%	26	5.5%	79	6.0%

*Because refugee tours focused on the community's specific concerns, the materials and activities they experienced were different from most visitors' experiences. The refugee evaluation therefore contained a different set of options to better represent this experience. Likewise, this part of the evaluation was done as a group to help bridge the language barrier, so individual answers are, for the most part, unavailable. Thus, the data sets are not comparable.

Visitors were asked to state the most important thing they learned at the Healthy Home. This was a way of tracking interest in tour information and of adapting future tours to community needs. The open-ended responses were coded into eight general healthy homes categories by Healthy Home staff (Table 6). Some visitors listed several items; the primary ones were coded.

> "It's my son's job to clean the bathroom – he does the tub with ammonia and the toilet with bleach. I always thought he was trying to get out of it by saying he had a headache, but now I now it's real and that it's dangerous for him to use those together."
>
> - Visitor

Table 6: Most important thing learned during the Healthy Home visit (open-ended*; excludes refugee data)**

	Year 1 (N_1= 328)	Year 1 %	Year 2 (N_2= 469)	Year 2 %	Year 3 (N_3= 437)	Year 3 %	Total (N= 1026)	Total %
energy	0	0.0%	1	0.2%	0	0.0%	1	0.1%
indoor air quality	37	11.3%	59	12.6%	26	5.9%	122	11.9%
asthma	42	12.8%	63	13.4%	57	13.0%	162	15.8%
lead	103	31.4%	119	25.4%	123	28.1%	345	33.6%
general	53	16.2%	110	23.5%	112	25.6%	67	6.5%
cleaning/ chemicals	51	15.5%	76	16.2%	58	13.3%	185	18.0%
resources	42	12.8%	36	7.7%	29	6.6%	107	10.4%
pests	0	0.0%	5	1.1%	32	7.3%	37	3.6%

*Visitors' open-ended responses were coded by category. Only primary responses were coded.
**Because of the language barrier, most refugee visitors were unable to answer this question.

Evaluations also asked visitors to consider their own homes, and rate their personal level of concern regarding some common household hazards. Over 40% of visitors were concerned with mold, pests and chemical hazards in their own homes after touring the Healthy Home. Lead and tobacco smoke were also common concerns, with over 30% of visitors thinking they had these hazards in their homes. Table 7 summarizes the responses of visitors for all hazard categories.

Table 7: Home hazard concerns reported by healthy home visitors (multiple answers allowed; excludes refugee data*)

	Year 1 (N_1 = 360)	Year 1 %	Year 2 (N_2 = 537)	Year 2 %	Year 3 (N_3 = 515)	Year 3 %	Total (N=1411)	Total %
Mold	193	53.6%	231	43.0%	211	41.0%	635	45.0%
Pests	161	44.7%	206	38.4%	228	44.3%	595	42.2%
tobacco smoke	87	24.2%	162	30.2%	203	39.4%	452	32.0%
Asbestos	78	21.7%	88	16.4%	111	21.6%	277	19.6%
carbon monoxide	94	26.1%	140	26.1%	141	27.4%	375	26.6%
Radon	65	18.1%	86	16.0%	97	18.8%	248	17.6%
Lead	131	36.4%	143	26.6%	182	35.3%	456	32.3%
Chemicals	199	55.3%	250	46.6%	197	38.3%	646	45.8%

* This question was modified on the refugee evaluation to simplify responses (only the options to agree or disagree were given, compared to the standard evaluation which provided "strongly agree," "agree," "disagree," "strongly disagree," and "don't know" options). Thus, the data sets are not comparable.

The Healthy Home emphasized the importance of personal action in addressing home environmental health hazards. Healthy Home partners and staff recognize these health issues as community-wide problems that are the responsibility of all individuals. People have personal responsibility to address hazards in their own homes, while property managers carry the responsibility of maintaining adequate housing. Likewise, community organizations, healthcare professionals, friends and others have a responsibility to share healthy homes information with clients and others. One of the greatest barriers to addressing home health hazards, however, is possessing the resources and capacity to address hazards. To meet these needs, Healthy Home tours focused on feasible individual actions, and connected visitors with additional resources as needed. The evaluation form asked visitors to circle specific categories of new actions they plan to take to address hazards in their own homes. Table 8 summarizes these planned action categories.

Table 8: Planned actions to reduce home hazards based on Evaluation responses (multiple responses allowed; excludes refugee data*)

	Year 1 (N_1=337)	Year 1 %	Year 2 (N_2=513)	Year 2 %	Year 3 (N_3=424)	Year 3 %	Total (N=1274)	Total %
contact a resource agency	70	20.8%	118	23.0%	149	35.1%	337	26.5%
make physical changes my home	150	44.5%	186	36.3%	156	36.8%	492	38.6%
ask landlord to make changes	82	24.3%	113	22.0%	174	41.0%	369	29.0%
change household cleaning habits	194	57.6%	265	51.7%	219	51.7%	678	53.2%
teach/share information with others	194	57.6%	208	40.5%	175	41.3%	577	45.3%
other	21	6.2%	27	5.3%	21	5.0%	69	5.4%

*For most visitors, action plan type was included in the evaluation, in addition to the actual Action Plan. This allowed visitors to list several types of actions they might take in addition to the single plan. This question was excluded from the refugee evaluation form to simplify the evaluation process.

Likewise, visitors filled out an Action Plan as part of the post-tour process, stating one specific action they would take to improve environmental health in their own lives. These specific actions were recorded on a carbon copy – Healthy Home staff kept one on record, while visitors took the other copy home. Staff contacted visitors between a month and a year after their visits to follow-up on action progress. Staff offered congratulations and offered additional ideas for completed actions, and offered assistance when visitors had not started or had been unable to complete their actions. Table 9 summarizes action success over the Healthy Home's three years. These totals reflect the number of visitors reached for follow-ups. Healthy Home staff attempted to contact 688 visitors, but only reached 472. There are several reasons visitors could not be contacted, including their phone or email was no longer in service, or they did not return attempted contacts. Healthy Home staff made two calls (or sent emails) for each contact attempt.

The contact attempt rate for Healthy Home staff varied over the years as well. This was influenced by whether participants left contact information, but also by projects at the Home. In year 3, for instance, the refugee project required intense management by program staff, leaving fewer resources for follow-ups.

Table 9: Action success based on follow-up calls (excluding refugee data*)**

	Year 1 (N_1 = 119)	Year 1 %	Year 2 (N_2 = 257)	Year 2 %	Year 3 (N_3 = 96)	Year 3 %	Total (N = 472)	Total %
YES	95	79.8%	177	68.9%	90	93.8%	362	76.7%
PARTIAL	14	11.8%	20	7.8%	3	3.1%	37	7.8%
NO	10	8.4%	60	23.3%	3	3.1%	73	15.5%

*Largely because of language barriers, staff were unable to follow-up directly with refugee visitors.
**These action results depict the distribution of success for completed follow-up calls. A response of "yes" meant that the visitor completed an action after visiting the Home. "Partial" means the visitor began an action but had not (yet) completed it (e.g., they were in the process, waiting to hear back from a resource, needed more information, etc.). "No" means they had taken no steps to complete an action, whether or not they have plans to.

Although participants chose their own actions, the level of commitment for each action type can vary greatly. For example, choosing to "share the information with others" in a conversation might be much simpler for someone than "making a physical change" to directly reduce hazards. Table 10 summarizes completed actions by action type. Excluding miscellaneous "other" actions, it seems as though sharing the information with others and changing cleaning habits are the most "achievable" goals for improving environmental health for an individual.

It is encouraging to see this result, as Healthy Home staff often considered safe cleaning/housekeeping to be something that requires a small change in a behavior that most

people often already do. Such a change is usually simpler to make than starting new habits altogether.

Table 10: Completed actions by action type

		contact a resource agency	make physical changes in my home	talk to owner of home I rent	change cleaning habits	teach others	Other***	Total
Year 1	N_1*	6	33	7	51	18	4	119
	#**	1	27	3	44	16	4	95
	%	16.7%	81.8%	42.9%	86.3%	88.9%	100.0%	79.8%
Year 2	N_2*	33	81	10	91	35	7	257
	#**	14	54	8	70	26	5	177
	%	42.4%	66.7%	80.0%	76.9%	74.3%	71.4%	68.9%
Year 3	N_3*	10	20	2	33	8	23	96
	#**	10	16	2	32	7	23	90
	%	100.0%	80.0%	100.0%	97.0%	87.5%	100.0%	93.8%
Total	N*	49	134	19	175	61	34	472
	#**	25	97	13	146	49	32	362
	%	51.0%	72.4%	68.4%	83.4%	80.3%	94.1%	76.7%

*Number of follow-up respondents who had indicated they would take this action
**Number of respondents who had completed the action prior to follow-up call
***In categorizing follow-up calls, visitors who had not indicated a specific action on their "action plan" were included in the "other" category

Conversations with visitors during follow-up calls reveal anecdotal improvements in environmental health. Visitors have reported a reduction in issues (e.g., pests), better relationships with property owners, and/or improved housing situations. Many respondents revealed that they were using the information when searching for new homes or apartments in order to start over in a healthier environment. Likewise, although staff were unable to conduct

follow-ups with refugee visitors, the Healthy Home program manager received positive anecdotal reports from several caseworkers reporting noticeable improvements in the homes they visit.

Data from the Healthy Home primarily focuses on its direct impacts for visitors, but it is important to consider the community impacts realized throughout the course of this program. Possibly the most important of these impacts was the development of the Healthy Home Advisory Council, now the Rochester Healthy Homes Partnership (RHHP). Prior to the Healthy Home, organizations serving to improve public health had little connection to one another. Through the Healthy Home, many of these partners discovered the potential relationships that could help leverage information and resources to create a broader impact on the community.

The Healthy Home supported the building blocks of other community initiatives as well. For example, while learning about lead in soil at the Healthy Home, SWAN staff began thinking about urban gardening and a youth program that had recently begun for their after school program. SWAN's Good Grief Garden was an initiative to provide a stress outlet for youth who had lost a loved one. The students were encouraged to tend a garden at SWAN, which included vegetables and other edible plants. The Healthy Home's lead in soil display triggered an idea for the staff member responsible for the garden, and she initiated the Grow Green program. The project began as a means of teaching students about safe urban gardening using above-ground grow boxes. The program addressed food deserts in the city (encouraging fresh, healthy food grown at home), and addressed lead hazard concerns associated with gardening. Grow Green developed into an entrepreneurship program where youth learned to tend plants, create products and manage a business. Through this initiative, SWAN was able to secure funding to

build a greenhouse, in which students grow and sell plants. The group also sells fresh produce at a local farmers' market, and has significantly contributed to the success of the market. In 2010, Wilson Foundation Academy (the city school in which SWAN is based) began using the greenhouse as an outdoor classroom for science, math, and other subjects.

Lessons Learned

The Healthy Home taught its partners and the local community several important lessons relating to three key elements: partnerships, an integrated hands-on approach, and a focus on action. These three elements helped the Healthy Home overcome the challenges described above related to education, complexity of required actions, and access to resources. Replication projects and other similar initiatives can greatly benefit from these lessons.

> "The Healthy Home project exceeded all our initial expectations in ways we could not have predicted at the outset. The program evolved over time to incorporate new environmental hazards, partner groups, and activities that vastly expanded the reach of the project. Perhaps most importantly, the sustained, highly functional partnership between the university, community, and government partners continues to provide a model for our city, as well as others throughout the country."
>
> - Katrina Korfmacher, University of Rochester

Partnerships

Because of the complex nature of home-based environmental hazards, addressing these problems requires interdisciplinary participation

> "SWAN has benefited in many ways from the collaboration forged at the onset of Healthy Home planning, one of which is that new partnerships continue to bring increased education and resources to both agency staff and to our consumers.
>
> The connections that have been built throughout the life of the Healthy Home's physical location have been solidified and now create new opportunities to support individual agency missions that will ultimately improve the quality of life for City of Rochester residents"
>
> - Eleanor Coleman, SWAN

(Krieger and Higgins, 2002). The Healthy Home's core team had provided diverse expertise that crossed several community sectors. SWAN had extensive experience developing community-based programs, RFRI excelled in housing services, and UR provided technical expertise, technological resources, and a strong background in environmental health.

Likewise, the partners remained committed to each other throughout the program, including at times when this meant conducting work in a less efficient way. Organizational qualities that bolstered this relationship included flexibility in "ownership" of the project, and a realistic view of the capacity and limitations of each organization. The HHAC supported this partnership by providing additional resources and leveraging opportunities when the core team needed to reach beyond organizational limitation.

Integrated Hands-on Approach

The Healthy Home and other programs have demonstrated time and again that a hands-on, experiential educational approach is highly effective in communicating environmental health information. The Home's interactive displays effectively demonstrated the causes,

affects and solutions to environmental home health hazards. The setting of the Home, in a residential building in a high-risk neighborhood, was effective in helping visitors of all types relate to the health messages. Likewise, taking an integrated approach to healthy homes allowed guides to present comprehensive environmental health information without overwhelming the visitor.

Focus on Actions

The Healthy Home aimed to accomplish two primary goals: 1) educate visitors on environmental health hazards in a way that encouraged personal action, and 2) help visitors reach valuable community resources. Hands-on education coupled with comprehensive information and support empowered visitors to take independent action to improve health in their homes. Displays and tour information not only taught visitors how to connect with the many resources in Rochester, but also emphasized the importance of taking action to address hazards.

Moving Forward

Broad local and national interest in the Healthy Home, the responses of visitors in follow-up interviews, engagement of a diverse Healthy Home Advisory Council, and council members' integration of home environmental health messages into their ongoing programs all indicate that the Healthy Home was a remarkable success.

Although the basic operational model of the Healthy Home proved to be an insightful way of disseminating information, there are both challenges in sustaining this model and

opportunities for building on this foundation. Maintaining resources to facilitate operation required an ongoing effort. Likewise, Healthy Home staff were continually developing new partnerships with schools, agencies, and housing programs to maintain and expand visitation. Developing and managing these partnerships required significant administrative commitments.

Despite these and other difficulties, the Healthy Home's impact on the Rochester community illustrated the importance of maintaining resources for environmental health information in some format. The original plan for the Healthy Home was to integrate this information into existing programs, largely through the HHAC. At the close of the project, it was apparent that HHAC partners were not prepared and/or did not have the capacity to take on the role of being a Healthy Home resource for the community.

The partners agreed that the Healthy Home Advisory Council should continue to exist, rebranded as the Rochester Healthy Homes Partnership (RHHP). The group meets regularly in an effort to maintain the collaborative efforts developed through the project. With no funding or physical "entity" behind the partnership, alternatives to providing the collective information were discussed. UR developed a "Healthy Homes Virtual Tour" on their website, where visitors can click through the various rooms of a home to read about environmental health hazards. To visit the website, go to http://www2.envmed.rochester.edu/healthyhomes.html. The website contains much of the information provided through the Healthy Home tours, but lacks the benefit of an experienced guide and hands-on interaction. The core team also met with staff from the Perinatal Network of Monroe County to discuss their initiative to develop a hard copy resource book for county residents. The Healthy Home partners agreed, however, that it would require too many resources to continually update and print the directory. The partners

stopped meeting with the directory group, and thought more about how to best provide this information for residents. The partners agrees that Rochester needed a "hotline" to field questions regarding environmental health information. One benefit of the Healthy Home program manager had been the ability to field calls and direct individuals toward the appropriate resources. However, the RHHP possessed no resources to support this role. The partnership connected with Rochester's 2-1-1 information hotline to incorporate the information into their database. City residents can call this number at any time for information on virtually any topic. RHHP member organizations applied to be included in the 2-1-1 database, and were included with a keyword linking them to the partnership. The healthy homes website at UR is also associated with each environmental health issue in their database.

The partners also agreed that a new initiative was required to develop capacity for local organizations to provide healthy homes information for their communities. The number of visitors to the Healthy Home, visitors' interactions with staff while touring the Home, follow up phone interview results, and extensive membership in the Healthy Home Advisory Council both during and after the project all indicate that the Healthy Home was an effective initiative for Rochester. However, extensive discussions about the possibility of extending the program ended with the conclusion that it was time to close. The possibility of establishing a Healthy Home in another neighborhood was also entertained, but considering the enormous cost associated with the program and the current extent of healthy homes resources in Rochester as a result of the program, this prospect is unlikely. There have been several instances where organizations have incorporated the Healthy Home's materials (posters, display items, etc.) into their community displays. For example when the Home closed, a local environmental education

firm incorporated the lead window displays to assist with hands-on activities in their lead classes. Chemical lookalikes, dust mite pillowcases and other small display items have been incorporated into the trainings conducted by UR. Other organizations have used the checklists to provide information for their clients.

As for training other agency staff in teaching healthy homes information, the partners agreed that someone should actively help local organizations acquire and incorporate displays and information. The Monroe County Department of Public Health contracted UR through a Department of Housing and Urban Development (HUD) Lead Hazard Control Grant to conduct healthy homes trainings. The Healthy Home program manager and UR staff used the training PowerPoint to developed a one-hour presentation, pairing it with a mobile kit of hands-on display items (Appendix 8 – kit; Appendix 9 - presentation). The primary goal of this program was to support integration of healthy homes information into existing outreach programs by training and supporting staff members.

Other cities have also considered replication projects. Perhaps one of the most important considerations in this endeavor is that despite positive indicators of the Healthy Home's impact on the Rochester community, a physical structure like Rochester's may not benefit other communities in the same way. Rochester's Healthy Home was initiated in response to specifically identified needs in the community, and at the time was the most effective model available considering the allotted funding and partner resources. The experiences gained through the extensive process of developing partnerships and gathering information can be a great asset for others seeking to introduce healthy homes education to their communities, but it is essential to review community needs, available resources,

partnerships and other factors before deciding on a model. For example, instead of renting space, hands-on displays on home environmental health could be added to a community group's existing office space or located in a church, hospital, or training site. Or, as with the original Lead Lab, the Healthy Home concept could be applied in a remodeling project with documentation and display of initial conditions, hazard treatment methods, and outcomes. Other communities may also experience different priorities for environmental health information than the topics selected for the Healthy Home.

Many key factors that contributed to the Rochester Healthy Home's success can be integrated into any educational model. Strong, multidisciplinary partnerships that span health and housing interests can be developed in any community, while the unique, hands-on approach adopted here is applicable to a number of project models. Replicators can also encourage action in their own communities by following the model of utilizing partnerships to generate a network of personalized resources, and to make achievable recommendations for change.

Recognizing the valuable lessons learned during this experience, UR staff developed a Guide to Replication to help those interested in designing their own projects. The Guide includes a description of partnership development, and a comprehensive overview of each display. The purpose of the document is to guide those interested in replication through the process of establishing a project that best fits their own community's needs. UR staff are also available as a resource for communities seeking to establish replication programs, and have already been contacted by organizations in several other cities including Baltimore, MD and Detroit, MI for advice about possible replication.

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