TITLE:

Educating refugees to improve their home environmental health
Abstract
Rochester’s Healthy Home was a hands-on home environmental health museum that educated over 3500 visitors between June 2006 and December 2010. The Healthy Home provided visitors with the tools, resources, and motivation to make their homes healthier by reducing environmental hazards. The Healthy Home focused on empowering low income renters to protect their families from home health risks. Based on the Healthy Home’s initial successes with diverse audiences, in 2009 the county health department provided funding for a six-month project to educate 200 recently arrived refugees. This report summarizes the project’s innovative approach to home health education, presents evaluation data on impacts on refugees and other visitors, and provides guidelines for those interested in replicating this approach in their own community.

Introduction
Refugees face many health challenges. Some result from experiences in their home countries; others may result once they arrive in the United States. One source of health hazards may be housing in poor condition. Even when living in safe housing, however, refugees who lack experience with western-style homes may be at greater risk than native-born residents. Limited English and health literacy may prevent refugee families from learning how to safely use, clean, and maintain their new homes.

One area in which refugees’ elevated risk from home environmental hazards has been well-documented is childhood lead poisoning. This issue received particular attention after a Sudanese child died from lead exposure in her home in New Hampshire in 2000. Several studies have suggested that refugee children may have excess risks of elevated blood lead levels from housing in the U.S., in addition to exposures from traditional ethnic products. Not only do refugee children from certain regions arrive with a high rate of elevated blood lead levels, but once in this country they have a greater chance of experiencing increased blood lead levels (BLL). These risks may be due to behaviors including cooking and cleaning practices, lack of knowledge of risks, or difficulty communicating with landlords.

Lead is just one of many potential hazards that refugees may encounter in their new homes. However, few resources exist to educate refugee families about how to reduce home environmental hazards. Rochester’s Healthy Home was an innovative partnership dedicated to helping residents improve the environmental health of their homes. Because the Healthy Home’s hands-on, interactive approach to home health education was found to be successful with low-income tenants, the project’s partners speculated that it might be an effective approach for refugees. This report describes a refugee education program conducted by the Healthy Home in 2009.

* Mercy Housing in Denver, CO developed highly visual housing guides and training programs for refugees; however, even these have limited coverage of environmental health hazards.
Refugee Education at Rochester’s Healthy Home

The Healthy Home opened in July 2006 as an interactive “museum” to provide free, hands-on education about home environmental health hazards, demonstrate low-cost methods for reducing these hazards, and develop individualized action plans for visitors’ homes. The Healthy Home addressed lead paint, asthma triggers, mold, toxic chemicals, safety risks, and other home hazards. The Healthy Home operated as a university-community partnership focused on the needs of low income tenants. During its three and a half years in operation, the Healthy Home welcomed over 3,500 visitors, over half of whom resided in zip codes with high rates of lead poisoning.†

The Healthy Home started with a small pilot grant from the University of Rochester’s Environmental Health Sciences Center. The partnership obtained additional funding from the USEPA, state health and environment agencies, local governments, churches, and local foundations. In 2009, the Healthy Home received a $15,000 grant from the county health department to train refugees about lead poisoning prevention and healthy homes. An additional grant from a local church provided free cleaning kits for refugees.

The Healthy Home partnered with the Catholic Family Center (CFC), a non-profit agency that provides resettlement services. CFC staff noted refugees’ lack of knowledge about safe food storage and effective cleaning methods. Healthy Home staff designed hands-on activities to address these needs. CFC interpreters were trained as Healthy Home “tour guides.”

Each two-hour visit started with an interactive tour that provided information on the Rochester Lead Law, other health and housing policies, and the rights and responsibilities of tenants and landlords. The tour was followed by hands-on training in healthy housekeeping, healthy food preparation and storage, reducing moisture and mold, safe use and storage of cleaning chemicals, using smoke and carbon monoxide detectors, and integrated pest management.

Over a six-month period, 149 refugees toured the Healthy Home, in addition to nine interpreters and around 80 staff and service providers who work with refugees. Visitors included Bhutanese, Nepali, Somali, and Sudanese refugees. Several group trainings were held at the CFC using a “healthy home on the road kit” of hands-on activities. Thirty refugee youth were also trained at the school district’s Refugee Academy.

A small number of refugees were able to complete an evaluation in English about which hazards might exist in their homes. As Table 1 shows, most of these refugees were most concerned about mold, pests, and carbon monoxide, whereas fewer than half of non-refugee visitors thought these were issues in their homes. Interpreters helped record the refugee visitors’

† Six zip codes in the City of Rochester are identified as ‘high risk’ for home health hazards based on their historically high rates of children with elevated blood lead levels (more than three times the statewide rate)‡.
action plans for making their homes safer. As shown in Table 2, 36% planned to change their cleaning habits and 19% planned to make physical changes to reduce hazards in their homes. An additional 36% planned other changes, such as turning on bathroom fans, washing hands with soap, and storing food in containers. During the tours, interpreters provided feedback from the refugees (Text Box 2) about what they were learning.

Although resource limitations precluded individual follow-up visits, CFC staff observed that families who visited the Healthy Home had improved cleaning, food storage, and other home health practices. In addition, interpreters reported that several families had shared information with friends and recommended they visit the Healthy Home. After the Healthy Home closed, CFC staff continued to incorporate this information into trainings and home visits as resources allowed.

This project confirmed that refugees may be at risk from home environmental health hazards due in part to lack of knowledge about U.S. housing. Resettlement organizations and should prioritize educating refugees about how to avoid such hazards. A hands-on approach to teaching these skills in a home-like setting may be effective.

Text Boxes

Text Box 1: Key Findings

Many refugees are unfamiliar with common hazards found in typical U.S. housing, putting them at additional risk from home environmental health hazards like lead, mold, household chemicals, radon, and carbon monoxide.

Refugee housing should be carefully inspected for potential hazards prior to placement of refugee families.

Resettlement agencies should help families acquire the knowledge to safely use, clean, and maintain their new housing, as well as to identify and avoid potential hazards in future housing choices.

Landlords who rent to refugees should be made aware that refugee families may need more education and support than native-born tenants.
Text Box 2: Comments made by refugees after touring the Healthy Home

“(we learned) different and better ways of cleaning here that are different from back home.”

“In the camps we had a lot of dust, so for cleaning we just threw buckets of water at the floor and walls to keep down the dust, but now we know how to clean here.”

“We never knew anything about lead before today.”

“I have a fan in my bathroom but I never knew what it was for.”

“We didn’t know the difference between a mouse and a rat and we were using mouse traps for rats; now we can use the right one.”

“We are used to just cleaning our hands off with water only if we can see they are dirty.”

Text Box 3: Tips for replication

Partner with community, school, housing, health, academic, and government groups to provide local resources and referrals.

Make trainings as hands-on and realistic as possible, preferably in a typical apartment setting.

Assemble a “Healthy Home on the Road” kit including cleaning materials, pest controls, examples of chemicals, pest traps, etc. to allow for hands-on demonstrations in classrooms or health fairs.

A “Guide to Replication,” “Virtual Tour of the Healthy Home” and other materials are available at: http://www2.envmed.rochester.edu/healthyhomes.html
Tables

Table 1. Home hazards of concern to Healthy Home visitors*

<table>
<thead>
<tr>
<th>“This could be a hazard in my home”</th>
<th>Non-refugee visitors (N = 1411)</th>
<th>Refugee visitors (N = 12)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>Mold</td>
<td>45 %</td>
<td>40 %</td>
</tr>
<tr>
<td>Pests</td>
<td>42 %</td>
<td>47 %</td>
</tr>
<tr>
<td>Tobacco Smoke</td>
<td>32 %</td>
<td>59 %</td>
</tr>
<tr>
<td>Asbestos</td>
<td>20 %</td>
<td>55 %</td>
</tr>
<tr>
<td>Carbon Monoxide</td>
<td>27 %</td>
<td>52 %</td>
</tr>
<tr>
<td>Radon</td>
<td>18 %</td>
<td>50 %</td>
</tr>
<tr>
<td>Lead Hazards</td>
<td>32 %</td>
<td>46 %</td>
</tr>
<tr>
<td>Household Chemicals</td>
<td>46 %</td>
<td>42 %</td>
</tr>
</tbody>
</table>

*More than one answer allowed

Table 2: Follow-up actions planned by Healthy Home visitors

<table>
<thead>
<tr>
<th></th>
<th>Non-refugee visitors (N= 1499)</th>
<th>Refugee visitors (N=93)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact a resource agency</td>
<td>11%</td>
<td>0%</td>
</tr>
<tr>
<td>Make physical changes in my home(s)</td>
<td>29%</td>
<td>19%</td>
</tr>
<tr>
<td>Talk to my landlord about the home I rent</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Change household cleaning habits</td>
<td>38%</td>
<td>36%</td>
</tr>
<tr>
<td>Teach/share information with others</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>Other</td>
<td>9%</td>
<td>36%</td>
</tr>
</tbody>
</table>

References


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