Michigan Department of Community Health

Methods

Throughout a 36-month period, a total of 300 homes of low to moderate income families will receive the "Basic Intervention" treatment. Each home is visually inspected and an evaluation conducted to identify and address asthma and allergy triggers and injury hazards.

Table 1: Reported family history of ever diagnosed with asthma - 162 families

<table>
<thead>
<tr>
<th>Relative</th>
<th>Positivity</th>
<th>Family History (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent</td>
<td>1 first-degree relative</td>
<td>56 (34.5%)</td>
</tr>
<tr>
<td>Father</td>
<td>2 first-degree relatives</td>
<td>16 (10%)</td>
</tr>
<tr>
<td>Mother</td>
<td>2 paternal 2nd degree relatives</td>
<td>16 (10%)</td>
</tr>
<tr>
<td>Family</td>
<td>3+ 1st degree relatives</td>
<td>36 (22%)</td>
</tr>
</tbody>
</table>

Results: Family History

The families enroll for a 6-month period of time, during which staff visits the home on approximately four separate occasions. The first two site visits introduce the program and staff to the family, collect baseline information about the family and house, and provide education and Basic Intervention products. Homes that qualify for the "Custom Intervention" program may be identified at that time. A minimum of 40 of these homes will receive Custom Intervention products and services based on multiple criteria criteria including family history of asthma and the number of affected persons within each household. The remaining two site visits provide additional education and collect information about changes in knowledge, attitudes and behaviors of the family.

Results: HUD Benchmarks

As of August 2007, 207 families have completed the basic intervention, and 118 have graduated from the program. The HHU team has been successful in employing strategies to use less custom intervention funds per home. For example, the HHU team has provided many homes with new fans, AC units, and dehumidifiers, while limiting structural repair to owner occupied units. This allows HHU to reach many more families with custom products and services.

Discussion

Healthy Homes University demonstrates a practical application of genomics in a public health program by recognizing the importance of gene-environment interactions in relation to childhood asthma. In public health, it is critical to show a maximum amount of impact with limited resources. By including family history information in the HHU program, we have documented the rate of self-reported asthma in the members. This extends the number of beneficiaries whose asthma symptoms may be alleviated. In addition, HHU staff report that collecting a family history appears to build trust and communication with families. This has led to referrals of other households within the same extended family. Moreover, among the HHU target population, there may be an association between family history of asthma and severity of asthma symptoms.

References & Acknowledgements


Healthy Homes University

Healthy Homes University: An Innovative Approach to Indoor Air Quality, Asthma, and Family History in a Community Setting

Courtney Wisinski, BS, John Gehring, MPH, Linda Stewart, BS, Debra Duquette, MS, CGC, Robert Wahl, DVM, MS

Background & Objectives

The Michigan Department of Community Health, Division of Environmental Health determined that there was a need for a more holistic program to address health hazards within the home beyond lead-based paint. As a result, in November of 2005, funding from HUD and other sources was secured to create Healthy Homes University (HHU) in 2005.

HUU Program Objectives:

- Positive change in the family’s knowledge, attitudes, and behaviors regarding asthma triggers and injury reduction within the home.
- Reduced frequency of asthma and injury emergency care events and school absenteeism.
- Family history is an important risk factor for asthma. A family history of asthma has also been associated with asthma severity. To better understand who was affected by this program beyond the initial child that was referred (the index case), the Healthy Homes Section partnered with the MDCCH Genomics Unit to integrate family history questions into the baseline survey of families. The MDCCH Genomics Unit provides assessment, policy development, and assurance related to the use of genomics in public health programs. To our knowledge, this is the first time a state health department has integrated genomics into an environmental health project.

HUU & Genomics Program Objectives:

- To apply principles of gene-environment interaction and family history knowledge in an actual public health project.
- To show the impact of collecting family history of asthma and the number of household members with asthma.

Community & Referrals

- Eligible applicants include household units of low to moderate income families with a child less than 18 years of age with asthma that reside within Ingham County, MI.
- Higher priority is given to eligible applicants from high-risk areas of Central, Northeast, and Northwest Lansing.

Client referrals are obtained from a wide variety of sources, helping HHU meet its recruitment goals: City of Lansing, Lansing School Nurses, Chapter Services, Local Health Departments, MSU Extension, and Neighborhood Coalitions.

Client Services:

- Capital Area Community Services
- City of Lansing
- Client Services
- Head Start / Early On
- Lansing School Nurses
- Spanos Healthy System

Results: HUD Benchmarks

As of August 2007, 207 families have completed the basic intervention, and 118 have graduated from the program. The HHU team has been successful in employing strategies to use less custom intervention funds per home. For example, the HHU team has provided many homes with new fans, AC units, and dehumidifiers, while limiting structural repair to owner occupied units. This allows HHU to reach many more families with custom products and services.

Discussion

Healthy Homes University demonstrates a practical application of genomics in a public health program by recognizing the importance of gene-environment interactions in relation to childhood asthma. In public health, it is critical to show a maximum amount of impact with limited resources. By including family history information in the HHU program, we have documented the rate of self-reported asthma in the relatives of children referred as index cases, and provided interventions in the home environment that will potentially benefit 160 additional family members. This extends the number of beneficiaries whose asthma symptoms may be alleviated. In addition, HHU staff report that collecting a family history appears to build trust and communication with families. This has led to referrals of other households within the same extended family. Moreover, among the HHU target population, there may be an association between family history of asthma and severity of asthma symptoms.

References & Acknowledgements