

Implementation Evaluation of Pittsburgh-Based In-Home Asthma Triggers Reduction Pilot Program: Overcoming Recruitment Barriers and Active Community Capacity Building

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In-Home Asthma Triggers Reduction Pilot Program

1. Caretakers of the participants will undergo a training program on environmental asthma and avoidance of triggers. Written materials will be distributed for home-based reference.
2. All homes will receive an environmental evaluation for asthma triggers to determine remediation technique to be used.
3. All homes will be remediated by Americorps volunteers according to set protocols.
4. Pre- and post-remediation visual, air, and surface monitoring of asthma triggers will be performed to insure lessening of allergen burden.
5. Recruit 50 participants from low-income families; valid recruits must test positive for environmentally related asthma and have mild to moderate asthma (an additional 100 participants will be added following pilot evaluation).



6. Ongoing in-home asthma trigger education modules delivered including environmental tobacco smoke (ETS), dust mites, and cockroach allergen.
7. Monthly asthma severity measures will be monitored.
8. Pre-, mid-, and post-program "Knowledge, Attitudes and Beliefs" of caretakers regarding environmental asthma will be determined by questionnaire.
9. Post-program visual, air, and surface monitoring of asthma triggers will be performed.
10. One year asthma severity measures will be evaluated against pre- and monthly-severity measures both within and between the two 25 participant cohorts making up the pilot program.

Measures

Intermediate Outcome Measures

- Decrease environmental trigger loads in each household
- Increase scores on an environmental asthma "Knowledge, Attitudes and Beliefs" questionnaire

Ultimate Outcome Measures

- Increase participants forced expiratory volume at one second (FEV1) over baseline and insure persistence of this positive change over the course of the study (12 months)
- Decrease lost school days
- Decrease rescue medicine usage
- Decrease emergency room visits
- Decrease symptom days



Objectives

The main goal is to empower and assist the community in developing sustainable strategies to reduce and control environmental asthma triggers. Key objectives for the pilot phase:

- Profile "in-home triggers" affecting low-income residences
- Develop cost-effective needs-based remediation/intervention menus
- Improve child health and caregiver quality of life of program participants
- Develop strategies to address barriers to sustainable remediation programs including community-capacity building (CCB)
- Develop a sustainable community training/intervention model
- Collect data to inform change and evaluate the program for effectiveness and cost efficiency

Eligibility Requirements

- Program participants must be diagnosed with asthma by a licensed professional and referred to the study through a program clinical partner.
- Participants must come from pre-determined zip codes on the North Side of Pittsburgh.
- Children must have mild – moderate asthma that is under control.
- Children must be between 6-12 year old at program entry.
- Families must be < 200% of the federal poverty level.
- Children must live in homes that are considered one-family units.
- Children must spend 75% of nights in the same bedroom.
- Children must have lived in the same home for one year before study onset (children living in shelters are excluded)
- Families must be fluent in English or have a translator
- Children must have tested positive by skin prick test to an environmental allergen of interest to the program.

Implementation Plan (Status)

- Finalize project instruments by 10/01/04 (completed)
- Recruitment: 50 families will obtain access to environmental hazard control and remediation services by October 2004
- 50 families will have received group education to understand the relationship of their living environment to their health conditions by February 2005
- Community worker training will have been conducted by February 2005 to equip community-based workers are equipped with the knowledge and skills to assist the community (completed)
- 50 families will have received baseline residential environmental assessments in order to know if their homes contain environmental hazards by March 2005
 - To improve housing conditions:
 - Remediation will have been conducted in 50 homes by April 2005
 - 50 participant families will receive community worker delivered in-home education by July 2005
 - 50 participant families will receive community worker delivered in-home education by July 2005
- All 50 families will receive ongoing health and final housing assessments by June 2006
- Full program closeout and evaluation by September 2007

Implementation Barriers

As of May 15, 2005, only three participants were enrolled in the In-Home Asthma program.

- Unforeseen delay of IRB approval by program partner led to an approximate three month delay in receiving and contacting clinically appropriate cases.
- Geographical recruitment zone is small and many names given by the clinical partner were outside the recruitment zone.
- Many potential participants live in multi-unit buildings.
- Potential participants are seen by other Health Care Systems and Clinics.
- Lists of potential participants were incomplete.
- Some otherwise qualified children live in numerous homes and do not spend 75% of nights in one home.
- Children in this low-income category move often and many do not live in one house for one year.
- Community knowledge of the environmental asthma problem, potential solutions and program was extremely low. Some community members critical that intervention insinuated that homemakers did not adequately take care of their homes (i.e., the program blames the victim).



Measures to Overcome Barriers

1. Answered all questions for partner IRB approval so that lists of potential participants could be released.
2. Requested and obtained approval from Housing and Urban Development (HUD) to:
 - Increase the geographical coverage of the study area to include other low-income areas of Pittsburgh.
 - Expand the number of health care systems, clinics and insurance companies referring participants to the program.
 - Allow participants who live in multi-unit building to participate in the program.
 - Acknowledge that many children who could benefit from this intervention spend less than 75% of their time in one home, and allow them to participate and potentially remediate two homes.
 - Allow children who have previously spent less than one year in a home into the study, account for this as a variable in the study evaluation.
3. Build community capacity related to environmental asthma causes, solutions and resources allowing community stakeholder and member buy-in.

Efforts to Increase Community Capacity

1. Established contacts with key community gatekeepers such as the North Side Leadership Conference (NLC).
2. Performed community "walk-arounds" to understand needs
3. Developed university-performing agency-community partnerships including:
 - North Side Christian Health Center (NSCHS)
 - North Side Boy Scouts of America
 - North Side Health Fair
4. Shadow NSCHS outreach coordinator to meet with other community leaders and community members and describe the project and its benefits
5. Inform faith-based groups of the existence and benefits of the program
6. Coverage of project in *Pittsburgh Post-Gazette* and *Tribune Review*
7. Advertisement of project in local newsletters and the *Pennysaver*



Conclusions

Overcoming Recruitment Barriers and Active Community Capacity Building

- Pilot recruitment has increased to 34 as of 10/15/05, an over 11 fold increase in participants from May, 2005.
- Baseline asthma severity measures have been performed on 15 participants as of 10/15/05.
- Visual analysis and environmental sampling have been performed in 5 homes.
- Although a complete cycle of one year of pilot outcome data will not be available for evaluation before implementation of the main intervention (100 participants), enough data will now be available to positively influence program structure and function.
- Community groups are engaged in direct conversations relative to the project.

More information

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