

Title of Intervention: Healthy Homes II- Asthma Project

Website: <http://www.kingcounty.gov/healthservices/health/chronic/asthma/past/HH2.aspx>

Intervention Strategies: Environments and Policies, Supportive Relationships, Campaigns and Promotions

Purpose of the Intervention: To improve the quality of life for children with asthma and their families

Population: Low-income minority children with asthma and their families in Seattle and King County, WA

Setting: Participants' homes; home-based

Partners: King County Asthma Forum, National Institutes of Environmental Health Sciences, Seattle Partners for Healthy Communities, American Lung Association, Apartment House Association, Center for Multicultural Health, Engineering Plus, Group Health Cooperative, League of Women Voters, Seattle and King County Public Health Departments, University of Washington

Intervention Description:

- **Environments and Policies:** Community health workers of shared ethnic, linguistic and cultural backgrounds as the participants conducted initial home environment assessments in order to provide action plans and packages of materials to reduce environmental triggers. These packages included bedding covers, vacuum cleaners with dirt finders and double-layer, reduced emissions vacuum bags, commercial quality doormats, cleaning kits, mops, buckets, rubber gloves, food storage containers and assistance with roach and rodent removal.
- **Supportive Relationships:** Community Home Environment Specialists (CHES) provided instrumental, informational and emotional support. CHES had a caring attitude and genuine interest in the well-being of their participants. They helped clients initiate cleaning and make minor repairs. They referred caregivers to the Asthma and Allergy Foundation's help line for additional advice and to local asthma support groups.
- **Campaigns and Promotions:** An asthma testing fair included food, games, door prizes and a raffle.

Theory: Social Cognitive Theory, Transtheoretical Stages of Change Model

Resources Required:

- **Staff/Volunteers:** Community Health Workers, Community Home Environment Specialists
- **Training:** Cultural competency training
- **Technology:** Not mentioned
- **Space:** Home
- **Budget:** Not mentioned
- **Intervention:** Bedding covers, vacuum cleaners with dirt finders and double-layer, reduced emissions vacuum bags, commercial quality door mats, cleaning kits, mops, buckets, rubber gloves, food storage containers, assistance with roach and rodent eradication, educational materials, food, games, prizes
- **Evaluation:** Questionnaire, home inspection form, process survey

Evaluation:

- **Design:** Randomized controlled trial
- **Methods and Measures:**
 - Questionnaires assessed knowledge of asthma triggers, assessment of asthma severity and medications used, access to medical care for asthma, tobacco smoke exposure, exposure to allergen sources, dust control behaviors, mold and moisture problems and contributing structural factors, additional factors contributing to exposure (food debris, trash, clutter), use and storage of hazardous and toxic products, additional indoor air contaminants.
 - Home inspection for living conditions was conducted.
 - A process survey assessed the usefulness of the information provided, supplies received and the action plan.

Outcomes:

- Short Term Impact: The subjects' knowledge about exposures to asthma triggers increased over the intervention in both groups, but was greater in the higher-intensity group. Significant improvements were found for vacuuming frequency, vacuuming of upholstery, use of mattress and pillow covers for dust mites, use of doormats and bathroom fan presence and use, but not for pets in home, stuffed toys in bedroom, bedding washing frequency, smoking behavior or reduction of food clutter. The higher intensity group showed significant improvements during the intervention year in condensation, roaches, moisture score, dust weight and asthma trigger composite score, while the lower-intensity groups had no significant improvements.
- Long Term Impact: Not measured

Maintenance: Not mentioned

Lessons Learned: This study demonstrates that a global approach to environmental interventions in the homes of low-income children with asthma is easily taught and understood by families. The intervention can change behaviors related to asthma triggers, reduce many of the offending exposures and improve asthma morbidity and caregiver quality of life.

Citation(s):

Takaro, T. K., J. W. Krieger, et al. (2004). "Effect of environmental interventions to reduce exposure to asthma triggers in homes of low-income children in Seattle." *J Expo Anal Environ Epidemiol* 14 Suppl 1: S133-43.

Krieger, J. K., T. K. Takaro, et al. (2002). "The Seattle-King County healthy homes project: *Environ Health Perspect* 110 Suppl 2: 311-22.