Home Interventions for Older Adults with Asthma

David Turcotte

*University of Massachusetts Lowell*

*Et al.*

---

*Let us know how access to this document benefits you.*

Follow this and additional works at: [https://escholarship.umassmed.edu/cts_retreat](https://escholarship.umassmed.edu/cts_retreat)

Part of the *Geriatrics Commons*, *Respiratory Tract Diseases Commons*, and the *Translational Medical Research Commons*

*Repository Citation*


*Creative Commons License*

This work is licensed under a Creative Commons Attribution-Noncommercial-Share Alike 3.0 License.

This material is brought to you by eScholarship@UMMS. It has been accepted for inclusion in UMass Center for Clinical and Translational Science Research Retreat by an authorized administrator of eScholarship@UMMS. For more information, please contact Lisa.Palmer@umassmed.edu.
HOME INTERVENTIONS FOR OLDER ADULTS WITH ASTHMA

David A. Turcotte, ScD¹, Susan Woskie, PhD², Emily Chaves, MA, MS¹, Kelechi Adejumo, MS³, Rebecca Gore, PhD²
¹Center for Community Research and Engagement, ²Department of Public Health, University of Massachusetts Lowell

Older asthmatic adults are more likely to experience respiratory failure than younger adults and children with asthma. Older adults spend up to 90% of their time in the home where many allergens are found. While there is sufficient evidence that home interventions improve the health of asthmatic children, there is insufficient evidence for the effectiveness of home interventions with adults. Our research evaluates the hypothesis that multi-trigger, multifaceted home interventions improve respiratory health and reduce home asthma triggers for older adults.

**Methods:** We evaluated the effectiveness of conducting interventions in the homes of 86 diverse, low-income older adults (age 62 or above) diagnosed with asthma, residing in public and private subsidized housing. The two largest populations include Hispanics (45%) and Asians (20%). Data was collected on respiratory health outcomes before and after the home intervention (questionnaires on symptoms, quality of life, medication use, doctor/ER/hospital visits, and exhaled nitric oxide (eNO) a measure of lung inflammation). Asthma trigger activities (ATAs) and exposures were also evaluated before and after the home intervention (questionnaire, home survey, measurement of nitrogen dioxide (NO₂), dust samples for rodent and cockroach allergens, biomarker for cigarette smoke exposure (urinary cotinine).

Interventions included education on asthma and environmental triggers; environmental remediation including mattress/pillow covers, provision of vacuum with HEPA filters, green cleaning supplies and changes in home as needed (commercial cleaning, integrated pest management, gas stove replacement, mold remediation).

**Results:** Significant health improvements were found in the following areas: number of doctor visits due to asthma, quality of life indicators including symptom and activity levels, and asthma control test.

**Contact:**
David Turcotte
Center for Community Research and Engagement
University of Massachusetts Lowell
David_Turcotte@uml.edu