

[Home](#) / [Engineering](#) / [Architecture](#)

INDOOR AIR

International Journal of Indoor Environment and Health










Indoor Air

Volume 14 Issue 3, Pages 169 - 173

Published Online: 25 Feb 2004

2007 The Authors
Journal compilation 2007
Blackwell Munksgaard

-  [Get Sample Copy](#)
-  [Recommend to Your Librarian](#)
-  [Save journal to My Profile](#)
-  [Set E-Mail Alert](#)
-  [Email this page](#)
-  [Print this page](#)
-  [RSS web feed \(What is RSS?\)](#)

Published on behalf of the
International Society of Indoor
Air Quality and Climate



[Go to Society Site](#)

 [Save Article to My Profile](#)  [Download Citation](#)

< [Previous Abstract](#) | [Next Abstract](#) >

Abstract | [References](#) | Full Text: [HTML](#), [PDF](#) (Size: 93K) | [Related Articles](#) | [Citation Tracking](#)

Health in occupants of energy efficient new homes

J. A. Leech¹, M. Raizenne¹, J. Gusdorf²

¹ Air Quality Health Effects Section, Health Protection Branch, Health Canada, ² Natural Resources Canada, Buildings Group, Ottawa, Ontario, Canada

Correspondence to J. A. Leech

Air Quality Health Effects Section, Health Protection Branch, Health Canada, Ottawa, Ontario, Canada

Tel.: (613) 761 4636

Fax: (613) 761 5333

e-mail: jleech@ottawahospital.on.ca

KEYWORDS

Indoor air quality • Mechanical ventilation

Abstract



A prospective telephone-administered questionnaire study in new home occupants compared general and respiratory health at occupancy and 1 year later in two groups. The test group or cases, was 52 R-2000™ homes (128 occupants) built to preset and certified criteria for energy efficient ventilation and construction practices. The control group were 53 new homes (149 occupants) built in the same year in the same geographic area and price range. Analyzed by household, case occupants' summative symptom scores improved significantly over the year of occupancy (Wilcoxon rank sum test, $P < 0.006$). Analysis of variance of individuals' total symptom scores showed a significant effect of the type of house ($P < 0.0001$), with lower change of scores in case buildings, but not of age or sex. In comparison with control homes, occupants of case homes reported more improvement in throat irritation ($P < 0.004$), cough ($P < 0.002$), fatigue ($P < 0.009$) and irritability ($P < 0.002$) with the main change in symptom category being from 'sometimes' to 'never'. Further extension of this pilot study is required to determine if these perceived health benefits are reproducible and/or relate to objective indoor air quality measures.

Practical Implications



New occupants of energy efficient homes with heat recovery ventilators report improvement over 1 year in the symptoms of throat

irritation, cough, fatigue, and irritability in comparison with control new home occupants. If this pilot study is reproducible and shown to relate to indoor air quality, prospective new home buyers may be interested in obtaining this health information prior to decision making.

Received for review 2 April 2001. Accepted for publication 28 March 2003.

DIGITAL OBJECT IDENTIFIER (DOI)

10.1111/j.1600-0668.2004.00212.x [About DOI](#)

Related Articles

- Find other [articles](#) like this in Wiley InterScience
- Find articles in Wiley InterScience written by any of the [authors](#)

Wiley InterScience is a member of CrossRef.



[Request Reprint](#)

Copyright © 1999-2009 [John Wiley & Sons, Inc.](#) All Rights Reserved.