Research & Development Highlights

96-201 Technical Series

Housing Needs of the Environmentally Hypersensitive
Socio-economic / Health Factors

Introduction

At present there is much investigation into environmental hypersensitivity and the issues surrounding it. While still under debate by the medical profession, it can be defined as a chronic condition, affecting various systems of the body to varying degrees from mild discomfort to total disability, exacerbated by exposure to a range of biological and chemical contaminants, but which cannot necessarily be detected by conventional medical testing procedures. Sufferers of this condition have found respite in clean air environments which minimize exposure to contaminants and much of the current research is focused on clean air housing options. The CMHC report, *The Clean Air Guide*, provides suggestions for clean air housing such as hardwood or ceramic tile flooring, non-painted walls and ceilings, building materials and furnishings with low emissions of volatile organic compounds, and a good ventilation system to provide fresh intake air and exhaust stale air. This guide stemmed from a 1990 CMHC study, *Housing for the Environmentally Hypersensitive*, which examined the types of changes environmentally hypersensitive individuals have made to their homes and the costs involved.

At present the housing industry has not responded to the need for clean air housing except for individual cases. In anticipation of future demands, CMHC has commissioned this survey to get a clearer idea of the housing needs of the environmentally hypersensitive in terms of market type, location, pricing and other characteristics.

Research Program

The researchers liaised with experts in the field and reviewed background material to develop a suitable questionnaire to be given over the telephone.

Participants were solicited from a number of sources. To recruit to or inform their members of the study, organizations involved in this area were approached via their newsletters, mail-outs, and meetings. In this manner, 250 individuals volunteered to participate in the survey of which 200 were used in the final sample.

A total of 36 questions were asked in the *5* part survey. The *Symptoms Experienced* section asked questions regarding the number of years the individual had been hypersensitive, the severity of the condition, and limitations in activities due to this condition.

The *Current Housing Situation* section pertained to types of dwellings being inhabited, number of renters vs. owners, number of mortgages and shelter subsidies, reasons for moving to this location such as better outdoor air quality, and features of or

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changes made to the house to provide cleaner indoor air quality.

The *Desired Housing Situation* section examined preferences by individuals for types of dwellings in terms of location, accessibility to services, types and size of housing, and cost of housing. This section also asked individuals to rate the importance of various clean air strategies in the home such as; location, hard-finish flooring, good ventilation system, and low off gassing building materials.

The *Socio-economic Characteristics* section queried individuals on their age, marital status, number of children, education level, employment status and income level. Changes to marital, employment and income status since the onset of hypersensitivity were noted. Other questions focused on the introduction of contaminants within the home such as smoking, hobbies involving chemicals, and perfumes.

The final *Open-ended Question* section allowed the individual to give their comments on the challenges faced by the environmentally hypersensitive and the role of the government as they saw it.

Findings

Individuals, on average, felt that they had been experiencing symptoms of hypersensitivity for approximately 13 years and had connected this to contaminants found within their home 7 years after onset.

In terms of degree of symptom severity the majority (89%) believed their symptoms to be moderately to very severe with 34% indicating very severe. A correlation was seen between degree of symptom severity and impact on lifestyle with 41% stating that
their condition had limited their lifestyle to a great extent. Overall, females scored higher in severity of symptoms and limitations to various activities than males. Interestingly, 83% of the respondents to the survey were female.

Age of respondents ranged from 26 to 76 years with an average age of 48 years. Slightly more than half were married and almost equal numbers of participants had changed their marital status (become married or divorced) since the onset of their condition. Slightly less than half reported that another household member suffered from hypersensitivity, allergies, or asthma usually to a lesser extent. The survey revealed that 46% of the respondents had completed at least an undergraduate university degree. In terms of impact on income levels, it was found that *53%* of the respondent's income had decreased since the onset of their condition. Results on annual household income levels indicated that 50% of respondents had incomes less than $40,000 with 26% making less than $20,000 while 15% made $80,000 or more. In most cases the bulk of this annual household income was not contributed by the hypersensitive respondent as based on personal income responses.

A mere 30% of respondents were currently employed and of these only 65% worked full time. More importantly, 63% indicated that they were physically unable to work. Sixty-six percent reported that their employment status had changed due to their condition with 43% not working at all and others working either less hours or at different locations away from contaminants.

Awareness to this issue is still a concern as 29% of respondents live with either a smoker, someone who uses perfumed

products, or someone who has a hobby requiring chemicals in the home.

Many individuals had moved at least once since becoming hypersensitive, usually to places with better outdoor and indoor air quality. Only a small percentage (9%) moved closer to medical services. A number of these individuals live in rural settings or small villages with only 30% living in large cities. Sixty-eight percent of the respondents are homeowners and 39% are mortgage-free while 32% of the renters receive government shelter subsidies.

The most commonly listed irritants in respondent's homes included pollution from traffic, pesticides, and cigarette smoke. Other sources included gaseous furnishings and carpets as well as mold, mildew, and dust.

Many respondents did not know specifically which features of their new home contributed to the clean air. In this case, the interviewer prompted the respondents by offering a range of known clean air features. The 5 most frequently mentioned features were hard-finish flooring, low chemical emission building materials, better ventilation systems, location, and electric heating systems rather than petroleum based. Other features mentioned included; air purification systems, dry basements, and no formaldehyde building materials. These features as well as the removal of carpets and furnishings were among the most common changes made to current dwellings as well as being the most desired features of a new home. Two important clean air features which respondents failed to acknowledge were non-painted walls and ceilings as well as and the absence of a basement.

More than half of the respondents desired to move from their current dwelling with only 7% preferring to remain in their current dwelling as is. Others felt that their current dwelling would be acceptable with a variety of clean air renovations. Many desired to move to smaller villages or rural areas due to the presumed cleaner outdoor air.

Of the 69% who would want to own their desired home, most would be willing to spend around $100,000 - $150,000 and would prefer it to be a single house as opposed to a low rise or semi-detached.

Respondents felt that government could take an active role in aiding those with hypersensitivity by providing funds such as tax credits and subsidies for new home purchases or renovations as well as providing low cost housing for the hypersensitive. Funding for research and medical costs especially for alternative health care was also felt to be important. Regulatory agencies could address the issue of hypersensitivity through appropriate building codes and air pollution regulations for both outside air (i.e. limitations on pesticide use and vehicle emissions) and indoor air quality in public areas (i.e. eliminating gaseous carpets, furnishings and building materials). The survey found that there is a definite need for mandatory labelling of consumer goods as to their chemical content. Many felt that there was also a need for increased education and awareness to hypersensitivity for both the hypersensitive as well as the general public

These comments reflected what the respondents felt to be their greatest challenge in terms of obtaining clean air housing. Many felt that they were not in a financial position to either buy a new home or renovate their present one to acceptable standards. At the

same time there is a lack of suitable housing on the market with renters having an especially hard time finding appropriate clean air apartments. Other comments pertained to the difficulty in avoiding consumer products and furnishings such as pesticides, smoke, aerosols, scented goods and synthetics. It was felt that education was needed for both the hypersensitive and the public in general to raise awareness to this condition. Greater dissemination of information on non-polluting products and clean air features is needed for both hypersensitive individuals and manufacturers to aid in providing and maintaining clean air environments.

Implications to the Housing Industry

The results of this survey clearly indicate that there is a growing demand for housing that provides a clean air environment. House designers, builders and manufacturers as well as those in the renovation industry will most likely be asked to address this issue as awareness to hypersensitivity increases. At present, there is a number of key clean air features which can readily be incorporated into new and existing housing. The extent to which this technology is incorporated will likely be based on the financial constraints of the individual, which affects a significant portion of this population, as well as potential government aid.

Project Manager: Virginia Salares
Research Report: Housing Needs of the Environmentally Hypersensitive Socioeconomic/Health Factors (1995)
Research ***Consultant:*** *Ekos Research Associates Inc.*

A full report on this research project is available from the Canadian Housing Information Centre at the address below.

Housing Research at CMHC

Under Part IX of the National Housing Act, the Government of Canada provides funds to CMHC to conduct research into the social, economic and technical aspects of housing and related fields, and to undertake the publishing and distribution of the results of this research.

This factsheet is one of a series intended to inform you of the nature and scope of CMHC's technical research program.

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