ENVIRONICS RESEARCH GROUP

EXECUTIVE SUMMARY

Quantitative Research on Indoor Air Quality and Mould in First Nations Households

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Prepared for:

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Research purpose and objectives

Health Canada commissioned Environics Research Group to conduct public opinion research with First Nations residents living on-reserve to obtain insights into their awareness, attitudes and behaviours regarding indoor air quality and mould in their households. The overall objective is to establish baseline data against which Health Canada can develop and implement a public health campaign on mould, and also against which education campaigns and social marketing results can be measured. More specifically, this research is intended to:

- Establish benchmark awareness, attitude and behaviour levels, specifically related to poor indoor air quality, including mould, in the home;
- Establish knowledge levels of First Nations on-reserve people in terms of how to identify mould, the factors that most contribute to its development, health risks associated with mould in the home, and what should be done when mould is identified in the home;
- Identify gaps in existing knowledge with First Nations people about indoor air quality and mould;
- Establish the reported incidence of poor indoor air quality and mould in First Nations households;
- Determine what actions, if any, are currently taken when mould is identified in the home, and what actions, if any, would be taken if mould should occur in the home;
- Provide insights into potential messaging to be directed at members of the target audience; and
- Explore the views of the target audience about the types of information they would like to have about mould and preferences for how they would like to receive this information.

Methodology

The research consisted of telephone interviews conducted between May 11 and 29, 2007 with a representative sample of 700 First Nations people living on a reserve, aged 18 years and older. The sample was stratified across the 10 provinces to ensure adequate subsamples for analysis by region. A national sample of this size will provide results accurate to within plus or minus 3.7 percentage points in 19 out of 20 samples. A more detailed description of the methodology used to conduct this study is presented at the end of the report, along with a copy of the questionnaire (Appendix).

Key findings

The results of this research reveal that mould, and by extension, indoor air quality, is considered by First Nations people living on-reserve to be a significant health issue. Half of the population reports having mould present – either currently or previously – in their home; for many, this is a recurring problem that has extended over several years. On a positive note, there is a relatively good level of existing knowledge about the issue, in terms of what contributes to mould, how it can be identified, and the associated health risks. However, individuals are less certain about how to prevent mould, or how to address it once it has occurred. While a majority of those experiencing mould have made efforts to remove it, there remains a substantial proportion (one-third) of this group who

say they continue to have mould in their home. The strong degree of expressed interest in learning more about how to identify, prevent and get rid of mould indicates there is a demand for further information, and Health Canada is well-positioned with First Nations people living on-reserve as a trustworthy source of this information.

The following summarizes the key findings from the research:

Perceptions of indoor air quality

- In the broad context of environmental and health risks, indoor air quality is not a particularly salient issue for First Nations people living on-reserve. When asked to identify those environmental problems that pose the greatest risk to their health (unprompted), water quality problems top the list (identified by 26%), compared with 11 percent who mention indoor air quality issues (including mould and second-hand smoke). However, specific indoor air quality issues, such as mould and second-hand smoke, do generate considerable levels of concern on an aided basis (68% and 61% say they are a high health risk, respectively).

- The concrete nature of these problems for the on-reserve population is likely a factor in the significant proportion (62%) who report having had concerns about their home's indoor air quality, now or at some point in the past. Furthermore, six in ten (62%) rate their indoor air quality as good or excellent, which is well below the proportion of the general population (87%) who say the same about their home. It likely also contributes to the relatively strong perception among First Nations people living on-reserve that poor indoor air quality has at least some impact on the health of people in their communities.

- Public perceptions of the health risks posed by indoor air quality are due in some part to the way in which First Nations people living on-reserve assess the quality of the air they are breathing. They rely primarily on experiencing health symptoms (e.g., trouble breathing, aggravation of allergies or asthma) and, to a somewhat lesser extent, smell and visual cues, to know when indoor air quality is a problem.

- Although mould in itself is considered a greater health risk than indoor air quality, First Nations people living on a reserve acknowledge a close connection between the two when specifically asked. Six in ten (61%) say that mould is a definite cause of poor indoor air quality, which is higher than the proportion that link indoor air quality to any other cause, including second-hand smoke (57% say it is a definite cause).

Awareness and knowledge of mould

- More than half (57%) of First Nations people living on a reserve say they know at least something about mould, and this is demonstrated by their reasonably good understanding of what causes mould, how it can be identified and the associated health risks. The on-reserve population identifies moisture as the primary contributor to mould in the home, and accordingly identify bathrooms and basements as the most common locations for mould. A majority say they would know there is mould in their home when they see it and smell it. Finally, First Nations people living on-reserve readily associate mould with respiratory illnesses – such as asthma – and with allergies, although fewer appear to have considered links between mould and skin rashes, cancer, fibromyalgia or heart disease.

- Despite their relatively good sense of what contributes to mould, First Nations people living on a reserve demonstrate a somewhat limited understanding of how mould can be prevented, as well as how it can be addressed should it occur in their home. Without prompting, no more than one in five can correctly identify any of the established methods for preventing mould (e.g., reducing moisture, increasing ventilation), and no more than one in three of those who have never had experience trying to remove mould could suggest any established strategy for doing so. Furthermore, substantial minorities cannot identify any way to prevent mould from growing in the home (19%) or to get rid of mould should it occur (35%).

Experience with mould

- One in two First Nations on-reserve households report the presence of mould in their current home (25%), or say they have had it in their current home in the past (27%). When combined with those who say they had mould in their previous residence (18%), this means that seven in ten First Nations people living on a reserve report having lived in a home with mould at one time or another.

- In a majority of cases, the mould problem is a recurring one rather than a one-time event. This is more common among those who currently have mould, half of whom report having had this problem for five years or more. Those who previously had a mould problem are more likely to say they had it for less than a year. There is no typical size or shape to the mould patches found in First Nations households, but by far the most common locations in which mould occurs are the basement and bathrooms, followed by bedrooms.

- Three-quarters of First Nations on-reserve households who have experienced mould in their current home have identified the cause of the problem, which in most cases is related to excess moisture from leaks, flooding or daily activities. Most (67%) report taking steps to get rid of the mould, primarily by trying to clean up the patch themselves. Two factors that appear to have contributed to people's success in getting rid of mould are identifying the cause of the mould, and involving an outside source (e.g., contractor, Band Council, environmental health officer) to help address the problem. Those who have not taken action say they are waiting for outside help, or that they lack money to invest in clean-up efforts.

- A noticeable proportion (50%) of those reporting mould in their home believe that their own health or that of someone else in their household has been affected as a result. They report mostly respiratory system-related problems such as asthma, shortness of breath and bronchitis, as well as allergies. Most say they linked their health problems to the mould in their home based on information provided by their doctor, or from symptoms that disappeared when the mould was removed.

Mould information

- A significant minority (38%) of First Nations people living on a reserve report having specifically taken steps in the past to learn about mould. Their primary source of information has been the Internet, which is also the source people who have not yet looked for information are most likely to consider using should they want to know more about mould in the future. Various other actual and potential sources are mentioned, including their Chief or Band Council, their community health centre, Health Canada or the Canada Mortgage and Housing Corporation (CMHC), although none stand out from the others as primary sources of mould information.

- Apart from the relatively limited proportion who have actively sought out mould information to date, First Nations people living on a reserve express a keen interest in learning more about this topic. Two in three people each say they are very interested in learning about the causes and health risks of mould, and how to identify, prevent and get rid of mould in the home, and this level of interest is even stronger among those who currently have mould. This population considers brochures and information kits sent directly to homes as the most useful way to distribute this information, and the perceived usefulness of all six potential sources asked about is remarkably consistent across regions and demographic segments of the population.

- Health Canada possesses a strong degree of credibility when it comes to providing mould information to this audience. Half (49%) say they would have a lot of confidence in this source of information, which is comparable to the degree of trust placed in medical doctors (53%) and environmental health officers (52%). Less than half as many would place the same degree of confidence in the news media, provincial governments, or their Chief and Band Council.

How results vary across the population

At a broad level, the major findings from this study are applicable to the First Nations on-reserve population across the country, as defined by demographic and household characteristics. Results on some questions and issues do vary noticeably by population segment, and these are outlined in the following paragraphs.

Demographics. With regard to demographic differences, awareness, attitudes and behaviours regarding mould and indoor air quality vary primarily by socio-economic status (as defined by education and income levels). Those with lower incomes and no high school diploma are more apt to rate their indoor air quality as poor, and yet it is those in the middle income bracket and those with a post-secondary education who express more concern about their home's air quality. One reason for this discrepancy is that those in lower socio-economic brackets are less apt to believe that indoor air quality affects health.

Higher levels of education and income are related to better self-rated knowledge of mould, a greater understanding that moisture contributes to its development, and a greater likelihood to take action both in terms of removing mould (when it exists) and looking for information about the issue. Of concern, however, is that the incidence of mould is higher among those with lower incomes, and that those with lower socio-economic status are less knowledgeable about how to prevent mould and where to turn for more information. While the credibility of various sources of information about mould is generally similar, people with lower levels of education tend to place greater trust in their Chief and Band Council.

By comparison to socio-economic status, age and gender have a limited influence on how First Nations people living on-reserve view these topics. Awareness and opinions about mould and indoor air quality and their impacts on health tend to be greater among women and people over 30 years of age.

Household composition. The composition of First Nations on-reserve households makes a relatively limited difference, primarily in terms of people's experience with mould. Households with children under 16 are more apt than others to currently have mould, and to report household health problems associated with mould, particularly asthma. The likelihood to currently have mould and to have experienced related health effects increases with the number of people living in the household.

Household characteristics. Better indoor air quality and a lower incidence of mould is more likely to be reported by First Nations people living in newer homes (under 10 years) and those who have equipment such as bathroom fans, stove fans, air exchangers and dehumidifiers. Few significant differences exist between households with basements, wall-to-wall carpeting or other characteristics that can be associated with the occurrence of mould, and those without these characteristics.

How results vary by region

Although the survey findings are generally applicable to all regions of the country, some differences are apparent.

British Columbia. B.C. residents, along with residents of Quebec and the Atlantic provinces, are most likely to rate their indoor air quality as excellent. It is therefore interesting that they are more apt than others to identify mould as a cause of poor indoor air quality. Moreover, those who have experienced mould have a greater likelihood to report a physical or health problem in their household attributable to the mould.

Alberta. Together with residents of Saskatchewan, Albertans are more likely to rate their indoor air quality as poor, and to cite poor housing construction as a major cause of mould. However, residents demonstrate a somewhat more limited understanding of mould (e.g., are more likely to say that simply keeping one's house clean is sufficient to prevent mould, and less likely to associate mould with respiratory illness), and perhaps as a result, are among those most interested in receiving information about the issue.

Saskatchewan/Manitoba. Residents of Saskatchewan and Manitoba are very similar in terms of their attitudes and perceptions related to mould and indoor air quality. They are among those most likely to say their indoor air quality is poor, and to have greater concerns about their indoor air quality as a result. They are more apt to cite mould as a major health risk for on-reserve

communities, to identify mould as a cause of poor indoor air quality, and to report greater knowledge of mould in general. Manitoba residents are most likely of all regions to currently have mould in their home (38%), and yet, together with residents of Saskatchewan, are least likely to have done anything to get rid of the mould.

Ontario. In most cases, Ontarians are similar to average in terms of their attitudes towards and experiences with mould and indoor air quality. However, they are among those least likely to say they know a lot about mould and, among those who have experienced mould in their home, are least likely to report having household health problems as a result.

Quebec. Residents of Quebec are among the most satisfied with the quality of their indoor air: less than half report that they are, or have previously been, concerned about it. At least in part, this is due to the considerably lower incidence of mould relative to other provinces (42% have ever had a mould problem vs. 70%+ in other provinces; only 10% currently have mould). This province is among those least likely to say they know a lot about mould, to identify mould as a cause of poor indoor air quality, and to consider mould to be a health risk. Nonetheless, those who have experienced mould are more likely to report household health effects as a result, and to say they have taken action to remove the problem.

Atlantic provinces. Although residents of these provinces are among those most likely to rate their indoor air quality as excellent (together with residents of B.C. and Quebec), and are no more likely than others to have experience with mould, they appear among the more knowledgeable about the topic. They are more likely to rate mould as a high health risk, to associate respiratory illness and allergies with mould, to identify excess moisture as a cause of mould, and to say that mould can be prevented by increasing ventilation in the household.

Recommendations

Based on the findings and conclusions of this research, the following recommendations are provided to Health Canada for consideration:

1. Beyond reinforcing the better-known aspects of mould (e.g., its health effects, what causes it, and how to identify it), the focus of communications should be on strategies to prevent and eliminate mould. In addition, it would also be valuable to emphasize messages that this problem *can* be solved, to combat the perception among some that nothing can be done, and to address a sense of powerlessness that may exist. Involvement from community leaders and other professionals should be widely encouraged, since people are more likely to report success in having addressed their mould problem when they have had access to outside support.

2. Health Canada should initially focus its communications efforts on reserves in Manitoba and Saskatchewan, since households in these provinces express the most concern about their indoor air quality and the health risks from mould, and yet are least likely to have taken steps to address this problem. However, reserves in other regions should not be overlooked, since people in these regions tend to report being less knowledgeable about the issue.

3. The findings of this survey suggest that the Internet, and brochures and information kits sent directly to people's homes are among the most preferred ways to share information about mould. It may also be worthwhile to explore alternate methods of communicating this information, such as establishing partnerships with people and organizations directly involved in on-reserve communities who also have an interest in addressing mould problems (e.g., health care providers, contractors and other tradespeople). It will be important to evaluate such initiatives early on in the process (e.g., pilot testing) to determine their effectiveness and make necessary adjustments before employing them more widely.

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For more information on this study, contact Health Canada at por-rop@hc-sc.gc.ca