

Healthy Homes Adequacy Standard

Canada's current housing adequacy standard does not include infestation conditions (mold and pests) in household dwellings. For many years, scholars have attempted to quantify the significant negative health outcomes that emerge as a result to exposure. Until recently, little data was available at the national level to quantify and track the occurrence of infestation conditions in dwellings, with many researchers relying on custom and localized surveys to gather this information. To resolve this data gap, the Canada Housing Survey (CHS) has added two questions addressing the presence of mold or pests in a dwelling.

This mixed-methods research project examines the policy context of infestation conditions and housing adequacy, as well as the health impacts of infestation conditions in the home. A quantitative analysis provides new demographic information about the populations facing this public health challenge.

Project Overview

This research project examines how infestation conditions have been studied in the housing domain through a historical review of policy interventions that address housing adequacy. We then considered how infestation conditions have been examined by life scientists and other policy players in the context of housing. To complement this literature review, a quantitative analysis aimed to measure the links between the presence of mold and pest in dwellings led by minority

household members (including households that self-identified as Indigenous), geographic location, housing tenure, income, and self-reported physical and mental health, providing new demographic information about the populations facing this public health challenge.

Methodology

Two scoping literature reviews were conducted, and the findings from the literature review informed the quantitative analysis. From the 2018 Canada Housing Survey, we used a weighted logistic regression with clustered robust standard errors by province¹ to identify what socio-economic factors matter the most in predicting if a household would report mold and pest issues. This method allowed us to establish a profile of an average household reporting these issues.

¹ Our results are robust to the different Standard Error (SE) specifications. We report the clustered robust SE in this research as they yield the most conservative estimates and, given the survey design, these would be a first choice. For future research, especially the one focusing on Social and Affordable Housing, a different specification of the SE may be more suitable.

About CMHC Data, Research and Analysis

CMHC exists to make housing affordable for everyone in Canada. To achieve our goal that everyone in Canada has a home that they can afford and then meets their needs, our data, research and analysis efforts will primarily focus on, but are not limited to:

- investments required for households in core housing need;
- market housing demand, supply gaps and affordability imbalances;
- racism and discrimination as a barrier to housing;
- the effects of climate change on housing;
- effectiveness of current housing policies and potential future policies; and
- working with Indigenous groups to understand their distinct housing needs.

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Key Findings

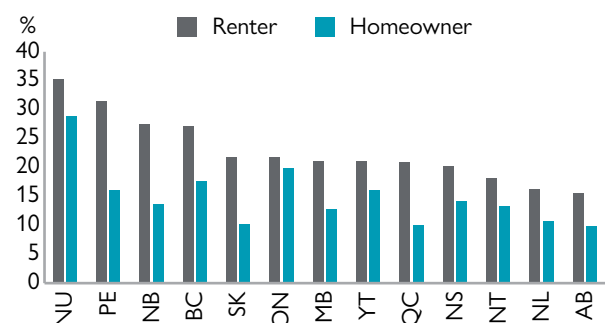
- Renters reported living in dwellings with mold and pest more often than homeowners.
- Populations experiencing vulnerability² may face compounded challenges as they report being exposed more frequently, and experience more difficulty dealing with infestation conditions – a finding supported by the literature and our quantitative analysis.
- Self-identified Indigenous households reported more often living in dwellings with mold and pest infestations compared to their non-Indigenous counterparts.
- Family composition is linked to the presence of mold and pest.

Main Findings

When disaggregated by population, and triangulating with the literature review, the research revealed the following key insights:

1. 17% of all households in Canada reported mold and pest infestations. Renters reported living in dwellings with mold and pests more often than homeowners — illustrated in figure 1 below.

Figure 1: Self-Reported Mold or Pest by Tenure Type and Province



Sources: Canada Housing Survey (2018) and CMHC calculations

² Persons belonging, or perceived to belong, to groups that are in a disadvantaged position or marginalized are often referred to as vulnerable groups or equity-seeking groups. In the case of the National Housing Strategy, priority groups are currently defined to include survivors (especially women and their children fleeing domestic violence); seniors; Indigenous peoples; people with disabilities; people dealing with mental health and addiction issues; veterans; LGBTQ2(+); racialized groups; recent immigrants (including refugees); and people experiencing homelessness. We recognize that people often live with multiple experiences of marginalization and thus an intersectional lens should be applied in discussion of each of these vulnerable groups.

2. The literature review indicated that populations experiencing vulnerability may face compound challenges as they report being exposed to infestation conditions more often and have trouble dealing with mold and pests. Our quantitative analysis supported this finding.
 - a. The literature review revealed the challenges of dealing with mold and pests in rental units. Our quantitative analysis revealed that not all populations experiencing vulnerability are in rental units. As a result, however, those that do live in rental units have less ability to directly resolve infestations due to mold and pests, especially if the level of infestation impacts multiple units in the same building.
 - b. The quantitative analysis revealed that households in core housing need also report infestation conditions more often. These households are equally unable to move into another dwelling option that is better — more affordable, adequate, or large enough for their families.
 - c. The literature review revealed that the presence of infestation conditions in a home has negative mental and physical health outcomes: elevated levels of stress, hives and other skin allergic reactions, asthma, and nasal irritation among others. In addition, some physical outcomes may be linked to food contamination due to the presence of mold and pests, like diarrhea, nausea, or vomiting. The quantitative analysis supported these findings as both homeowners and renters who reported living in dwellings with infestation conditions also reported poor mental and physical health.
3. Self-identified Indigenous households reported most often living in dwellings with mold and pest infestations.
 - a. In the sample of Indigenous households both in CHN and not in CHN, an Indigenous household is about **5%** more likely to report living in a dwelling with mold and pest issues compared to non-Indigenous households.
 - b. Examining only those households in CHN, the estimate increases to **12%** for an Indigenous household compared to a non-Indigenous household.
 - c. Corresponding to this outcome, households living in Nunavut reported living in dwellings with mold and pests more often than any other province or territory.
 - d. Indigenous households reporting mold and pest equally report poor mental and physical health outcomes.
4. Family composition is linked to the presence of mold and pests in a few different ways.
 - a. Larger Canadian households with three or more members are about **3%** more likely to report mold and pest issues than smaller households.
 - b. The higher the age of the household maintainer, the lower the probability of reporting living in a dwelling with mold and pest issues.
 - c. Women-headed households in the CHN sample are about **5%** less likely to report living in a dwelling with infestation issues.

Research limitations

Although the Canadian Housing Survey aims at capturing all populations and aims to be representative at the national level, the survey can still miss subgroups or geographies that could be disproportionately affected by mold and pests, such as Indigenous groups living on reserve or in remote locations. As such, our findings could be underestimating the extent of housing adequacy issues for people who might need the most help in resolving the mold and pest issues.

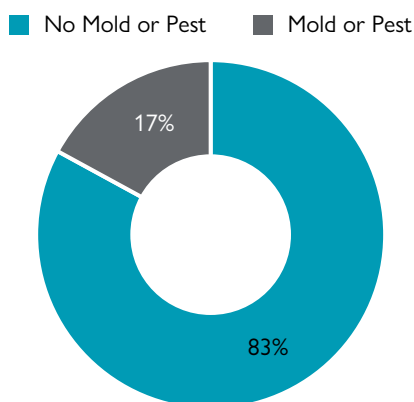
Future Research Opportunities

- The current research provides results by market home ownership and rental, leaving an opportunity to examine infestation conditions in social and affordable housing.
- The presence of mold and pest questions on future cycles of the CHS provides an opportunity to track the changes in the prevalence of infestation conditions nationally and provincially and over time.
- Further qualitative research, disaggregated by tenure and sub-population, would help in further understanding how the experience of mold and pest infestations differ between homeowners and renters, as well as among the various subpopulations within each category.

Fast Facts

- 17% of all households in Canada, as sampled by the Canadian Housing Survey, reported infestation conditions (see figure 2, below).

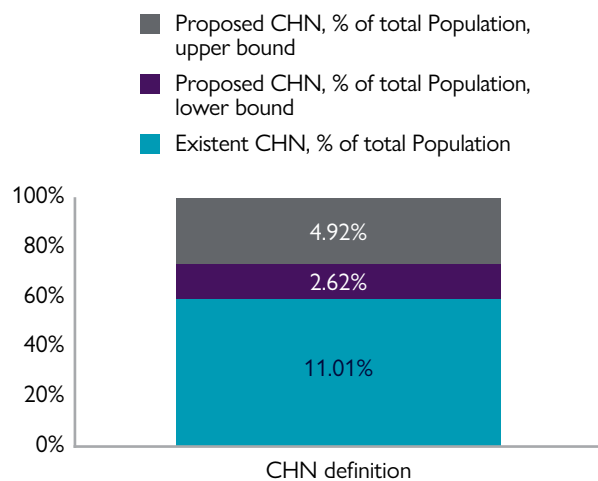
Figure 2: Households reporting mold or pest issues



Sources: Canada Housing Survey (2018) and CMHC calculations

- Households living in Nunavut reported living in dwellings with mold and pests most often, and households in Alberta reported infestation conditions the least often.
- Being in CHN increases the probability of living in dwellings with mold and pests by about 7%.
- Currently, there is a percentage of the Canadian population who experience mold and pest issues that are not considered to be in CHN. Adding mold and pest variables to the adequacy standard would increase the percentage of populations living in core housing need by 2 – 5% of total Canadians as seen in figure 3, below.

Figure 3: Estimate of Core Housing Need Impact



Sources: Canada Housing Survey (2018) and CMHC calculations

Implications for the Housing Sector and Housing Policy

- There are links between the presence of home infestation conditions and physical and mental health outcomes. **Addressing mold and pest issues may have a larger positive impact for Indigenous households**, given the complex and compounding challenges encountered by this group when accessing adequate housing.
- The presence of infestation conditions has been linked to more frequent moves by households. Yet households in core housing need are “stuck,” cycling through inadequate, unaffordable, or unsuitable housing. Frequent moves may place additional stress on these already vulnerable households. **Implementing and enforcing acceptability guidelines for the presence of mold and pests in homes would foster healthier living conditions.** Such guidelines could be developed using Health Canada’s guidelines for addressing moisture and mold in the home³, guidelines for removing zoonotic transmissions of diseases⁴, and the World Health Organizations’ guidelines as a starting point.

³ See <https://www.canada.ca/en/health-canada/services/publications/healthy-living/addressing-moisture-mould-your-home.html> for more information.

⁴ See <https://www.canada.ca/en/public-health/services/publications/healthy-living/key-steps-help-reduce-zoonotic-disease-transmission-rodents-infographic.html> for more information.

- The current definition of housing adequacy makes no mention to unhealthy internal housing conditions. There is an opportunity to **update the definition of “adequate” housing to include guidelines on infestation conditions** in different housing types, and lead to stronger enforcement of healthier home regulations. This definition can be aligned to the work related to a Human Rights based approach to Adequate Housing, especially to the standard of physical and mental health.

Glossary of Key Terms

- **Adequate Housing**⁵ does not require any major repairs, according to residents. Major repairs include those to defective plumbing or electrical wiring, or structural repairs to walls, floors or ceilings.
- **Core Housing Need**⁵: A household is in core housing need if its housing does not meet one or more of the adequacy, suitability or affordability standards and it would have to spend 30% or more of its before-tax income to pay the median rent (including utility costs) of alternative local market housing that meets all three standards.
- **Household maintainer** refers to the individual in a household who is responsible for paying the rent, or the mortgage, or the taxes, or the electricity or other services or utilities. In cases where more than one person contributes to these expenses, more than one person in the household may be identified as a household maintainer. If no person in the household is identified as making such payments, the reference person is identified by default.
- **Mold infestations** are defined as small, if there are 1 – 3 patches, each less than 1 m² (10 square feet) in size; moderate, if there more than 3 patches or if the patches are greater than 1 m² but less than 3 m² (32 square feet); or extensive, if the patch is larger than 3 m².⁶
- **Pest infestations** are defined as, “the presence of an unusually large number of insects or animals in a place, typically so as to cause damage or disease.”⁷
- **Populations experiencing vulnerability** are persons belonging, or perceived to belong, to groups that are in a disadvantaged position or marginalized. Priority groups are currently defined in the National Housing Strategy to include survivors (especially women and their children fleeing domestic violence); seniors; Indigenous peoples; people with disabilities; people dealing with mental health and addiction issues; veterans; LGBTQ2(+); racialized groups; recent immigrants (including refugees); and people experiencing homelessness. We recognize that people often live with multiple experiences of marginalization and thus an intersectional lens should be applied in discussion of each of these vulnerable groups.

⁵ See <https://www.cmhc-schl.gc.ca/en/nhs/guidepage-strategy/glossary>

⁶ See: <https://www.cmhc-schl.gc.ca/en/professionals/industry-innovation-and-leadership/industry-expertise/indigenous-housing/develop-manage-indigenous-housing/maintenance-solutions/mould-in-housing/mould-cleanup-at-a-glance-infographic>

⁷ See, for example: <https://www.tpsgc-pwgsc.gc.ca/comm/vedette-features/faq-punaisesdelit-bedbugs-eng.html>

For Further Reading

Related Reading

Implementing the right to adequate housing under the National Housing Strategy Act: the international human rights framework, 2021

https://eppdscrmssa01.blob.core.windows.net/cmhcprodcontainer/sf/project/archive/housing_organizations3/porter-nrhn-ofha-paper-2021-final.pdf

Adequate housing as a component of the right to an adequate standard of living, and the right to non-discrimination in this context, 2019

https://eppdscrmssa01.blob.core.windows.net/cmhcprodcontainer/sf/project/archive/housing_organizations/a_74_183_e.pdf

Urban Aboriginal Social Housing Solution: providing access to affordable, adequate and stable housing, 2020, 2022

https://eppdscrmssa01.blob.core.windows.net/cmhcprodcontainer/sf/project/archive/publications_3/aboriginal-social-housing-project-_cmhc.pdf

Non-housing outcomes of affordable housing: update review of empirical research evidence linking affordable adequate and stable housing to a range of outcomes, 2016

https://eppdscrmssa01.blob.core.windows.net/cmhcprodcontainer/sf/project/archive/research_5/non_housing_outcomes_of_affordable_housing.pdf

CMHC's Mould in Housing Series, 2018

<https://www.cmhc-schl.gc.ca/en/professionals/industry-innovation-and-leadership/industry-expertise/indigenous-housing/develop-manage-indigenous-housing/maintenance-solutions/mould-in-housing>

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Full Report

Healthy Homes Adequacy Standard, 2022

https://assets.cmhc-schl.gc.ca/sf/project/archive/research_6/adequacy-report-final.pdf

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Alternative text and data for figures

Figure 1: Self-Reported Mold or Pest by Tenure Type and Province

Provinces & Territories	Renter	Homeowner
Nunavut	35.18%	28.90%
Prince Edward Island	31.40%	15.97%
New Brunswick	27.47%	13.61%
British Columbia	27.05%	17.70%
Saskatchewan	21.71%	10.22%
Ontario	21.68%	19.91%
Manitoba	21.05%	12.67%
Yukon	21.00%	16.14%
Quebec	20.92%	10.06%
Nova Scotia	20.22%	14.15%
Northwest Territories	18.11%	13.36%
Newfoundland and Labrador	16.25%	10.74%
Alberta	15.61%	9.79%

Sources: Canada Housing Survey (2018) and CMHC calculations

Figure 3: Estimate of Core Housing Need Impact

	CHN definition
Existent CHN, % of total Population	11.01%
Proposed CHN, % of total Population, lower bound	2.62%
Proposed CHN, % of total Population, upper bound	4.92%

Sources: Canada Housing Survey (2018) and CMHC calculations