



1 in 10  
households  
experience  
food insecurity

# Household Food Insecurity in Alberta

## A Backgrounder



Alberta Health  
Services

Prepared by Registered Dietitians at Alberta Health Services with contributions from several Alberta Health Services departments and from stakeholders within other sectors. We wish to thank our numerous reviewers and contributors for their input and support.

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## Purpose

The purpose of this backgrounder is to provide a detailed overview of the relationship between income, health and household food insecurity within Alberta.

## Household food insecurity

Household food insecurity (HFI) refers to “inadequate or insecure access to food because of financial constraints.”<sup>1</sup> Households that experience food insecurity endure a wide spectrum of challenges that range from persistent worry about running out of food to skipping meals to eating nothing for a day or longer.<sup>1</sup> However, all people living in the same household may not face the same severity of food insecurity due to the way in which food is distributed among members.<sup>1</sup> Furthermore, a household or individual may experience food insecurity on an unexpected, intermittent, frequent or persistent basis during a specified period in time.<sup>1</sup> Individuals and households who have scarce financial resources are often forced to spend less money on food to ensure they have enough money to maintain other key necessities, particularly housing, utilities and childcare.<sup>2</sup>

## Measurement of household food insecurity

Health Canada has consistently measured the prevalence of HFI across the country since 2005 through the validated [Household Food Security Survey Module](#) (HFSSM) within the [Canadian Community Health Survey](#) (CCHS). Health Canada has established a recurring pattern where the HFSSM represents a national topic in the CCHS for two consecutive years, and then becomes an optional topic over the next two years for any province or territory that wishes to continue measuring regional food insecurity prevalence.<sup>3-5</sup> Health Canada included the module as regular content in the CCHS 2007–2008, 2011–2012 and 2015–2016. The Government of Alberta chose to add the HFSSM as a province-specific measurement within the CCHS 2005, 2009–2010 and 2013–2014. Thus, HFI prevalence data is available for Alberta every year from 2005 to 2016.

The HFSSM measures self-reported prevalence and severity of HFI through 10 adult-referenced items and eight child-referenced items (for households that have members younger than 18 years old). It is important to note that the CCHS population sampling does not include some populations that are at higher risk of experiencing food insecurity, including homeless Canadians and Indigenous peoples who live on reserves.<sup>1</sup> Thus, national and provincial HFI prevalence rates may actually be higher than CCHS estimates. Table 1 outlines the scales used to determine food insecurity status based on the number of positive responses to either adult-referenced or child-referenced items.<sup>1,6</sup> Health Canada did not establish the criteria for ‘marginal food insecurity’ status and does not include this category in their reports on national HFI prevalence statistics. However, leading researchers have defined this distinct classification to acknowledge higher vulnerability in those households who report any level of financial uncertainty over their access to food.<sup>1</sup>

**Table 1: Classification of Household Food Insecurity Status**

| Food security status      | Adult Status 10-item Adult Scale  | Child Status 8-item Child Scale | Household Status   |
|---------------------------|---|---------------------------------|--|
| Food secure               | 0 positive responses  | 0 positive responses            | Both the adults and the children are food secure   |
|                           | No income-related barriers to accessing preferred variety, quality and quantity of food         |                                 |  |
| *Marginal food insecurity | No more than 1 positive response on either scale  |                                 | Either the adults or the children, or both the adults and the children are marginally food insecure, and neither is moderately or severely food insecure |
|                           | Ongoing worry about running out of food and/or limited food selection due to a lack of money    |                                 |  |
| Moderate food insecurity  | 2-5 positive responses  | 2-4 positive responses          | Either the adults or the children, or both the adults and the children are moderately food insecure, and neither is severely food insecure               |
|                           | Forced to compromise the quality and/or quantity of food due to a lack of money                 |                                 |  |
| Severe food insecurity    | 6+ positive responses   | 5+ positive responses           | Either adults or children in the household are severely food insecure  |
|                           | Missed meals, reduced food intake and, at the most extreme, no food for an entire day or longer |                                 |  |

\* Health Canada does not distinguish “marginal food insecurity” and instead defines this classification as “food secure.”

## Vulnerability to household food insecurity

Over the past decade, a growing body of research and several cycles of HFSSM data have helped identify specific household characteristics and conditions that increase the risk for HFI in Canada and Alberta. HFSSM results have identified a significantly higher prevalence of HFI within the following population groups:

- low income households<sup>1,7</sup>
- individuals who rent rather than own their home<sup>1,8</sup>
- lone parents, especially lone female parents<sup>1,9</sup>
- individuals who receive social assistance<sup>1,9</sup>
- unattached (single) people<sup>1,9</sup>
- women<sup>4</sup>
- households with children younger than 18 years old<sup>1,9</sup>

## Specific Populations

Leading researchers in Canada and the United States also suggest that the following populations may be at higher risk of experiencing HFI compared to the general public:

- recent immigrants<sup>1,10,11</sup>
- recent refugees who have been in Canada for 10 years or less<sup>12</sup>
- people who have a disability<sup>13,14</sup>
- lesbian, gay, bisexual and transgender populations<sup>15-18</sup>
- workers who experience limited employment due to racial discrimination<sup>19,20</sup>
- homeless populations<sup>21-24</sup>

## Indigenous Peoples

There is limited research into the unique life circumstances and experiences of both on- and off-reserve Indigenous peoples (First Nations, Métis and Inuit) in Alberta who live in food insecure households. However, there is strong evidence to show a much greater prevalence and severity of HFI among Indigenous populations compared to the general public across Canada. HFI among Indigenous peoples is also closely associated with other key social determinants of health, including income level, education, access to employment and income source. An analysis of the 2004 CCHS data indicates that off-reserve Indigenous households were more than three times as likely to experience food insecurity as non-Indigenous households, and nearly five times as likely to be *severely* food insecure.<sup>25</sup> The results of the 2012 CCHS demonstrate a similar pattern where the combined rate of marginal, moderate and severe food insecurity for Indigenous households was two and one-half times greater than the rest of the households across the country.<sup>1</sup>

In 2013, Health Canada funded the [First Nations Food, Nutrition and Environment Study](#) (FNFNES) to collect regional information on the diets and exposure to environmental contaminants (including traditional foods) of on-reserve First Nations populations. The FNFNES includes the full 18-item HFSSM to measure the prevalence of food insecurity within on-reserve households in participating regions across Canada. Therefore, HFI prevalence rates identified through the FNFNES can be compared to the CCHS results for both the general Canadian public and off-reserve Indigenous populations during similar time periods.

The 2013 FNFNES data for Alberta showed that 47% of on-reserve households experienced either moderate or severe food insecurity in the previous year.<sup>26</sup> This rate is higher than reports from Ontario (29%), Manitoba (38%) and British Columbia (41%).<sup>27-29</sup> Furthermore, the percentage of on-reserve households in Alberta that were severely food insecure (13%) was appreciably greater than the levels reported through the FNFNES in Ontario (8%), Manitoba (6%) and British Columbia (7%). When FNFNES researchers included on-reserve households that experienced marginal food insecurity, the prevalence of HFI among First Nations communities in Alberta jumped to 60%. This value is nearly six times greater than the rate reported by the general public of Alberta in the 2013 CCHS<sup>30</sup> and more than double the number of off-reserve Indigenous households who reported food insecurity in the 2012 CCHS.<sup>1</sup>

From 2008 to 2010, The First Nations Information Governance Centre coordinated the Regional Health Survey (RHS) to collect information about on-reserve households and northern First Nations communities across Canada.<sup>31</sup> The RHS used a 6-item, modified version of the HFSSM to assess the level of food insecurity. It is not possible to make direct comparisons between RHS and CCHS results because the two investigations use different food insecurity measurement tools and data analysis methods. However, both surveys uncovered similar and consistent patterns. The RHS results for Alberta indicated that 54% of households had 'often' or 'sometimes' run out of food in the past year because they did not have enough money to buy more. In addition, one quarter of adults had to reduce portions or skip meals and nearly 30% of parents could not always feed their children enough due to a lack of household finances to purchase enough food.

## Relationship between income and household food insecurity

Household income is the strongest single predictor of HFI.<sup>1,9</sup> Low income households are many times more likely to report *severe* food insecurity compared to middle and high income households.<sup>1,33</sup> However, it is critical to recognize that low household income is not synonymous with HFI, and that higher household income does not always prevent individuals and families from experiencing food insecurity. Low wage earners may remain food secure if they do not suffer unpredictable financial shocks, such as job loss, salary reduction, death of a breadwinner, relocation expenses, increased housing costs, or health or legal fees.<sup>7,34</sup> Middle or higher income households may experience food insecurity due to financial pressures related to debt load, high home rental or mortgage costs, increases in the number of household members, chronic illness, job loss or illness.<sup>35,36</sup>

## Prevalence of household food insecurity in Alberta

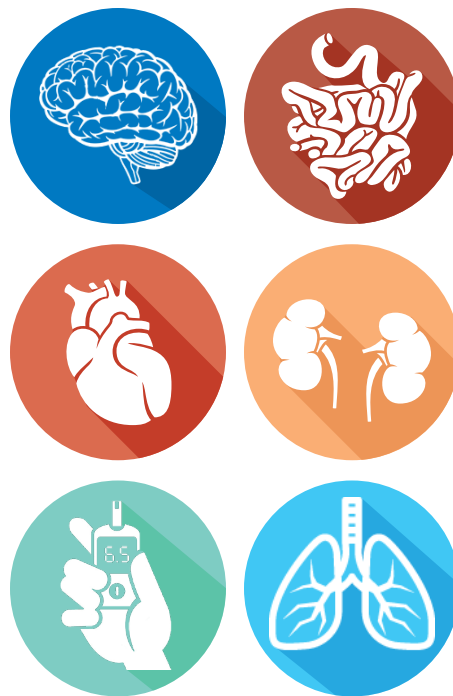
Health Canada reported that more than 1 in 12 households across Alberta had experienced moderate to severe food insecurity during 2012.<sup>4</sup> If marginally food insecure Albertans are included in these statistics, the HFI prevalence grows to more than 1 in 10 households.<sup>1</sup> Nearly 8 out of 10 food insecure households across the province relied on employment earnings as their primary source of income, yet they were still not able to afford enough food for each person living in the home.<sup>1,19</sup> It is important to note that these prevalence rates do not indicate that *all* people in a household were food insecure, but rather that *at least one person* in each household experienced moderate to severe food insecurity during the past 12 months.



## Health consequences of household food insecurity

Research shows that HFI leads to considerable negative impacts on the health and well-being of the Canadian population across all age groups. Mothers who cannot access adequate nutrition due to low income may be at higher risk of delivering babies with low birth weights.<sup>37,38</sup> Infants and toddlers who live in food insecure households are much more likely to experience poor health and to require hospitalization.<sup>39,40</sup> Children and youth appear more likely to face poor emotional and physical health outcomes when they are exposed to household food insecurity.<sup>1,41-43</sup> Food insecure adolescents and adults are at elevated risk of nutrition inadequacies because they generally consume insufficient amounts of several essential nutrients (e.g., protein, vitamin A, folic acid, zinc, vitamin B12) compared to their food secure counterparts.<sup>44</sup>

Adults who experience prolonged food insecurity may be at significantly higher risk for the development of chronic conditions,<sup>9</sup> yet chronic illnesses may also place adults at higher risk of becoming food insecure due to the negative impacts on their total income.<sup>32</sup> The results of national health surveys suggest there is a significant association between HFI and particular chronic conditions, such as mood disorders, diabetes, heart disease, migraine headaches, high blood pressure, bowel disorders and asthma.<sup>9,33,45-50</sup> There is also emerging research that demonstrates a higher prevalence of HFI among client groups who struggle with specific conditions such as diabetes, HIV and chronic kidney disease.<sup>51-53</sup>

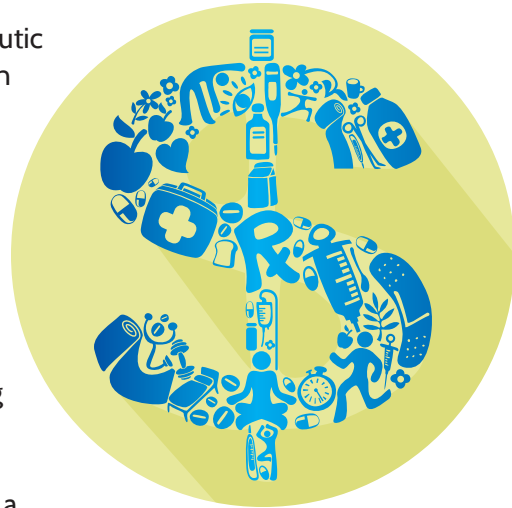


The relationship between HFI and obesity remains uncertain and will likely be difficult to clarify because excessive weight gain is the result of a complex web of interaction between nutrition, genetic, psychosocial, economic and environmental factors.<sup>54</sup> There is a need for more longitudinal research to understand how food insecurity status affects body weight in children, youth and adults within the Canadian context.<sup>55</sup> The majority of existing evidence has not uncovered a significant relationship between food insecurity and childhood obesity, while research on adults indicates a potential association with women but not with men.<sup>54</sup>

## Healthcare costs and household food insecurity

Adults who develop a chronic illness may be more vulnerable to becoming food insecure, or more *severely* food insecure. Individuals and households may not have adequate financial resources to buy healthy food on a regular basis due to an interplay between chronic conditions and the following factors:<sup>33, 50-52,56</sup>

- greater expenses when following a therapeutic nutrition regimen to manage their condition
- higher health care, treatment and medication costs
- reduced earnings as a result of poor health, decreased energy and lower productivity
- decreased physical and mental energy to manage a complex financial tactics, such as delaying rent or bill payments, seeking loans from friends or agencies, or accessing charitable support



Once an adult who is food insecure develops a chronic illness, they will be at greater risk of poor health consequences if they cannot afford to treat their condition through recommended medication and nutrition interventions.<sup>33,57</sup> Data from the 2007 CCHS showed that across Canada, as many as 1 in 10 individuals who receive a prescription from their physician may not be able to afford medication on a regular basis.<sup>58</sup> The Canadian Medical Association has suggested that 1 in 4 lower income Canadians have delayed or stopped buying prescription drugs compared to only 1 in 33 Canadians who earn more than \$60,000 per year.<sup>59</sup> The 2012 CCHS examined self-reported financial barriers for optimal care amongst Canadians who lived in the four western provinces and currently had a history of heart disease, stroke, diabetes or hypertension. Twelve percent of all respondents reported *general* financial barriers to pay for necessary services, equipment or medications, while another four percent identified monetary obstacles *specific* to the purchase of prescribed medications.<sup>60</sup> An analysis of the national Survey of Household Spending determined that the proportion of lowest income households that spent more than 5% of their after-tax income on health care rose from 26% to 37% between 1997 and 2009.<sup>61</sup> Despite their constrained finances, households in the lowest income quintile purchased prescription drugs more than any other type of health support and the amount of money they spent on medication rose 64% over 12 years.<sup>60</sup> This upsurge in drug expenses is triple the rate for households in the highest income quintile and at least double the rate for households in the middle three quintiles.<sup>60</sup>



The Public Health Agency of Canada and Statistics Canada recently performed a national-level analysis of several 2007-2008 sources of health data in order to learn more about the relationship between healthcare costs and household income across the country.<sup>62</sup> During this specific time period, individuals who lived on lower incomes experienced higher rates of hospitalization, greater costs for prescription medication and more physician diagnoses of chronic conditions. The analysis concluded that the 20% of Canadians in the lowest income quintile generally experience higher levels of illness, injury and disease and therefore account for 60% of total health care costs. The increase in healthcare costs is greater when comparing low to middle income Canadians, than when comparing middle to high income Canadians. Paradoxically, individuals who live on the lowest incomes are generally less able to afford the protective elements of a healthy lifestyle, yet are more likely to experience the negative impact of stress and substandard living conditions.

## How food insecure households attempt to cope

Financial constraints can negatively impact a household's ability to follow a nutritious eating pattern. Food insecure households most often try to cope through strategies that manage income, but many are also forced to survive through strategies that manage food.<sup>63</sup> Most households that experience food insecurity cannot spend adequate amounts of money on healthy food because they must prioritize a substantial portion of their budget for housing and utility costs.<sup>64</sup> Price most often dictates grocery purchases within food insecure households, while personal preferences and nutritional quality become less and less influential as the severity of HFI rises.<sup>65</sup> Research suggests that parents (particularly mothers), adults and older siblings try to protect younger children from overt hunger during times of financial constraint.<sup>66,67</sup> Individuals and households who experience food insecurity also engage in several other strategies to try to manage their food intake with limited economic resources, including, but not limited to:<sup>64</sup>

- skipping meals
- reducing the size of meals
- eating nothing for extended periods of time
- eating excessive amounts of food when it is available
- using inexpensive food items – such as potatoes or flour – as “fillers”
- relying on lower quality, lower cost foods
- buying less meat, milk, fruits and vegetables



Apart from poor nutrition, Albertans who live in food-insecure households may also face a greater health burden due to the negative *psychological* impacts that result from the following strategies to free up more money for food.<sup>64,68</sup>

- cancelling services for household utilities
- selling personal possessions
- delaying bill payments despite interest charges
- paying only the minimum balance on certain bills to prevent termination of services
- borrowing money, particularly for rent

## Looking ahead

The Government of Alberta has demonstrated a commitment to monitor the prevalence of HFI across the province by including the HFSSM as an optional component of the 2013 and 2014 cycles of the CCHS. This uninterrupted series of data will provide greater insight into any changes in the patterns of HFI prevalence across Alberta.<sup>69</sup> The CCHS also collects household sociodemographic characteristics that will facilitate more effective identification of the social markers of HFI vulnerability in Alberta's changing economy.<sup>70</sup> In addition, the FNFNES and RHS represent essential and reliable data about the experiences and prevalence of household food insecurity among on-reserve First Nation populations across the province. The information in this backgrounder will therefore be updated as new research and data arises.

## For more information

For assistance or expertise in locating, interpreting or applying relevant household food insecurity data, contact your local Alberta Health Services public health dietitian at [PublicHealthNutrition@ahs.ca](mailto:PublicHealthNutrition@ahs.ca).

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