Household Food Insecurity in Ontario

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ABSTRACT

Objectives: To identify socio-demographic factors associated with household food insecurity in the Ontario population.

Methods: Using data from the Ontario Share File of the 2004 Canadian Community Health Survey, Cycle 2.2, multivariate logistic regression was applied to identify the socio-demographic characteristics of households most likely to report food insecurity.

Results: Of the estimated 379,100 food-insecure households in Ontario in 2004, 55% were reliant on salaries or wages, 23% on social assistance, and 13% on pensions or seniors' benefits. The prevalence of food insecurity increased markedly as income adequacy declined, rising to 47% in the lowest category of income adequacy. Food insecurity was also more prevalent among tenant households and single-person and single-parent households. When all socio-demographic factors were taken into account, three potent socio-demographic correlates of household food insecurity in Ontario were identified: low income adequacy, social assistance as the main source of income, and not owning one's dwelling. Compared to households whose main source of income was salary or wages, the adjusted odds of experiencing food insecurity was 3.69 (95% CI: 2.33, 5.84) for households reliant on social assistance, but 0.44 (95% CI: 0.29, 0.67) for those reliant on pensions or seniors' benefits.

Discussion: Our findings highlight the need for more adequate social assistance benefit levels, but also point to the need for better income supports for low-waged workers in Ontario so that they have sufficient financial resources to purchase the food they need.

Key words: Food; socioeconomic factors; Ontario

La traduction du résumé se trouve à la fin de l'article.

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Although questions about food insecurity have been included on several national surveys,¹⁻⁴ the 2004 Canadian Community Health Survey (CCHS 2.2) marks the first time that food insecurity has been assessed in the Canadian population using a standardized instrument with known measurement properties.^{5,6} The assessment identified 9.2% of Canadian households as food insecure in the previous 12 months.⁵ This must be an underestimate, however, because CCHS 2.2 did not include the territories, on-reserve First Nations people, or homeless people – three groups in which high levels of food insecurity have been previously documented.^{1,7-11} Within provinces, the observed prevalence ranged from 8.1% in Saskatchewan to 14.6% in Nova Scotia.⁵ Ontario, with a prevalence of 8.4%, was home to an estimated 379,100 food-insecure households, one third of all food-insecure households in the country.¹²

An examination of the dietary intake data collected in CCHS 2.2 revealed that household food insecurity is associated with inadequate nutrient intakes among adults and adolescents.¹³ These results, coupled with the evidence that individuals in food-insecure households in Canada have poorer health than others across a variety of measures,¹⁻⁴ present a clear population health imperative to address household food insecurity. Building on the descriptive statistics released by Health Canada,¹² we undertook further examination of the data from CCHS 2.2 to identify socio-demographic factors associated with food insecurity in the Ontario population, to help inform provincial responses to this problem. Province-specific analyses are needed because provincial governments are responsible for setting minimum wages, social assistance benefit levels, and other policies of particular relevance to problems of household food insecurity.

METHODS

All analyses were conducted using data from the Ontario Share File of the CCHS 2.2 (2004). This sample of 10,517 individuals comprises the 96.3% of Ontario respondents who gave permission to share their information with the province. Because food security was assessed at the level of the household rather than the individual, weights specifically designed for household-level analyses were applied in this study to estimate the number of households experiencing food insecurity.

Household food security status was determined from the 18-item Household Food Security Survey Module (HFSSM), following the classifications developed by Health Canada.⁵ A household was considered food insecure if there were indications of compromise in the quality and/or quantity of food consumed among either adults or children in the household because of financial constraints. This was denoted by two or more affirmative responses on either the 10-item adult subscale or 8-item child subscale on the HFSSM.

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Figure 1. Health planning regions of Ontario

Source: Statistics Canada, 2005. Cartographic Boundary Files. Health Regions: Boundaries and Correspondence with Census Geography.

Logistic regression was undertaken to identify the socio-demographic characteristics of households most likely to report food insecurity. Because food insecurity was assessed at the household level, we limited our examination to socio-demographic variables also measured at the household level: health region (Figure 1), household type, household income adequacy (Table 1), main source of income, and home ownership. The reference category for each variable was set as the category with the largest prevalence in our sample. Unadjusted odds ratios were generated from bivariate logistic regressions and adjusted odds ratios were generated from a multivariate model including all five variables. A bootstrap variance estimation method and household weights, both supplied by Statistics Canada, were used to calculate 95% confidence intervals and coefficients of variation. The analyses included 10,082 respondents with complete data for all variables. Comparison of our results with the reported prevalence of food insecurity for all respondents in Ontario¹² suggests that the exclusion of respondents with missing data did not bias the estimation of this parameter.

Table 1. Category Definitions for Household Income Adequacy Variable

Income Adequacy	Income Thresholds by Household Size
Lowest income	<\$10,000 if 1 to 4 persons <\$15,000 if 5 or more persons
Lower-middle income	\$10,000 to \$14,999 if 1 or 2 persons \$10,000 to \$19,999 if 3 or 4 persons \$15,000 to \$29,999 if 5 or more persons
Middle income	\$15,000 to \$29,999 if 1 or 2 persons \$20,000 to \$39,999 if 3 or 4 persons \$30,000 to \$59,999 if 5 or more persons
Upper-middle income	\$30,000 to \$59,999 if 1 or 2 persons \$40,000 to \$79,999 if 3 or 4 persons \$60,000 to \$79,999 if 5 or more persons
Highest income	≥\$60,000 if 1 or 2 persons ≥\$80,000 if 3 or more persons

RESULTS

The socio-demographic profile of food-insecure households differed considerably from the profile of food-secure households (Table 2). Within the province, the prevalence of household food insecurity ranged from 6.9% in the South West and Central East health regions to 10.1% in the Toronto health region (Table 2), although an examination of the crude odds ratio for health region (Table 3) indicates that these differences are not statistically significant. Nonetheless, the regional variation in prevalence suggests that this problem poses a greater burden for some parts of the province than others. When other socio-demographic variables were taken into account, the only significant difference by region was a lower odds of food insecurity in the South West compared to the Central West region.

The prevalence of food insecurity increased markedly as income adequacy declined, rising to 47% in the lowest category of income adequacy (Table 2). Even after other socio-demographic factors were taken into account, the odds of experiencing household food insecurity rose in a stepwise fashion as the adequacy of household income declined (Table 3). Despite the much greater odds of food insecurity among those in the lowest income adequacy category, most food-insecure households in the province have incomes in the middle and lower-middle adequacy ranges, reflecting the greater number of households with incomes at these levels.

The highest prevalence of food insecurity occurred among households in which the main source of income was social assistance (Table 2), a categorization that includes both Ontario Works and the Ontario Disability Support Program. Sixty-one percent of households reliant on social assistance were food insecure, compared with 6.5% of households reliant on salaries and wages and 5% reliant on pensions or seniors' benefits. Even after controlling for other household socio-demographic characteristics, households reliant on social assistance had almost four times the odds of experiencing food insecurity compared to households that relied on salary or wages (Table 3). In contrast, the odds of experiencing food insecurity for households where the main source of income was pension or seniors' benefits was less than half that of a household that relied on salary or wages as its main source of household income.

Considering the distribution of food-secure and food-insecure households in Ontario by income source provides another window into this problem (Figure 2). Twenty-three percent of food-insecure

Table 2. Selected Socio-demographic Characteristics of Ontario Households by Food Security Status, 2004

	N	% Food Secure	95% CI	% Food Insecure	95% CI
Ontario	4,553,500	91.7	90.8, 92.5	8.3	7.5, 9.2
Health region					
South West	540,800	93.1	91.7, 94.6	6.9	5.4, 8.3
Central South	430,600	92.1	90.1, 94.1	8.0	6.0, 10.0
Central West	685,200	92.2	90.4, 94.1	7.8	5.9, 9.6
Central East	715,900	93.1	91.0, 95.2	6.9	4.8, 9.0
Toronto	903,000	89.9	87.5, 92.2	10.1	7.8, 12.5
East	584,000	91.3	89.0, 93.6	8.7	6.4, 11.0
North	314,700	90.3	88.0, 92.6	9.7	7.4, 12.0
Main source of income					
Salary/Wages	3,150,300	93.5	92.7, 94.2	6.5	5.8, 7.3
Social assistance	143,200	38.9	30.5, 47.2	61.1	52.8, 69.5
Worker's compensation or Employment Insurance	33,000	74.1	59.7, 88.4	*	*
Pension or seniors' benefits	923,200	94.9	93.3, 96.4	5.1	3.6, 6.7
Other	159,100	88.1	83.6, 92.6	11.9 E	7.5, 16.4
Household income adequacy					
Lowest	133,500	52.8	43.3, 62.2	47.2	37.8, 56.7
Lower-middle	278,000	69.6	64.4, 74.7	30.4	25.3, 35.6
Middle	777,000	85.6	83.3, 87.8	14.4	12.2, 16.7
Upper-middle	1,404,900	94.8	93.7, 96.0	5.2	4.0, 6.3
Highest	1,513,900	98.2	97.5, 98.8	1.8 E	1.2, 2.5
Not stated	446,200	95.7	94.4, 97.1	4.3	2.9, 5.6
Household type					
Couple with children <25 years old, with or without others	1,464,600	93.9	92.8, 95.0	6.1	5.0, 7.2
Single	1,304,600	88.5	86.4, 90.5	11.5	9.5, 13.6
Single parent, children <25 years old	368,100	83.7	80.7, 86.6	16.3	13.4, 19.3
Couple alone	1,111,500	96.2	95.0, 97.3	3.8	2.7, 5.0
Other household types	285,300	88.4	84.3, 92.5	11.6 E	7.5, 15.7
Home ownership					
Own dwelling	3,222,000	96.5	95.9, 97.1	3.5	3.0, 4.1
Do not own dwelling	1,329,900	80.1	77.8, 82.3	19.9	17.7, 22.2

Notes: N = weighted sample size, rounded to nearest 100; CI = confidence interval. Estimates accompanied by an E are considered of marginal quality. The reader is advised to 'use with caution'.

* Data with a cell size less than 25 have been suppressed.

households were reliant on social assistance, compared to just 1% of food-secure households. However, 55% of food-insecure households were reliant on salaries or wages for their incomes.

Although food insecurity was more prevalent among single-parent households and single-person households compared to couples with or without children (Table 2), there was no difference in the odds of experiencing food insecurity by household type, once the other variables were taken into consideration (Table 3).

Households who owned their dwelling had a much lower rate of food insecurity than those who reported not owning a dwelling (Table 2). After taking other socio-demographic factors into account, not owning a dwelling was associated with almost three times the odds of household food insecurity (Table 3).

DISCUSSION AND CONCLUSIONS

Three potent socio-demographic correlates of household food insecurity in Ontario can be delineated from our analysis: low income adequacy, social assistance as the main source of income, and not owning one's dwelling. These three variables have been repeatedly associated with increased odds of food insecurity in published examinations of national survey data.²⁻⁴ Together, they chart the extreme financial vulnerability that underpins household food insecurity. The crude understanding of household financial resources provided by the income adequacy variable is extended by information on home ownership and income source. The greater vulnerability of tenant households to food insecurity in part reflects the impact of housing costs on the income left for food,¹⁴ but home ownership is also an indicator of household 'wealth' not captured by income alone. Similarly, reliance on social assistance is independently associated with food insecurity because the vulnerability of recipient households extends beyond income. They lack

savings, property, or other financial assets because this is typically a requirement for eligibility and benefit levels are too low for households to subsequently acquire assets.

Our finding that lone-parenthood was not associated with increased vulnerability to food insecurity once other socio-demographic factors were controlled for, stands in contrast to analyses of earlier national surveys reporting increased odds of food insecurity and related conditions among single-parent³ or lone-mother households.^{2,4} Given that only 1.5% of households in our sample were headed by male single parents, it is unlikely that the discrepancy between our findings and those of earlier studies reflects our failure to differentiate lone-parenthood by gender. The fact that the odds ratio for household food insecurity was significantly higher among single-parent families in Ontario prior to adjustment for other socio-demographic variables suggests that the greater vulnerability of single-parent families is largely a function of their greater poverty.

The high prevalence of food insecurity among social assistance recipients in Ontario comes as no surprise. The inadequacy of welfare incomes to cover estimates of basic living costs is routinely documented in conjunction with the release of costing estimates for the Nutritious Food Basket in Ontario,¹⁵⁻¹⁸ and our results lend support to the advocacy efforts prompted by these comparisons. Welfare incomes for those not receiving disability support payments fell by more than 30% in Ontario between 1992 and 2005.¹⁹ This drop reflects the 21.6% reduction to welfare incomes in 1995 and the non-indexation of benefits to inflation. The small increases in welfare incomes announced in recent years are insufficient to reverse this trend.

Further indication of the inadequacy of social assistance income levels in Ontario comes from an examination of the prevalence of

Table 3. Household Food Insecurity in Relation to Selected Household Socio-demographic Characteristics in Ontario, 2004 (n=10,082)

	Crude OR for Reporting Food Insecurity (95% CI)	Adjusted OR for Reporting Food Insecurity‡ (95% CI)
Health region		
South West	0.87 (0.63, 1.21)	0.67* (0.45, 0.99)
Central South	1.02 (0.69, 1.51)	0.93 (0.59, 1.45)
Central West†	1.00	1.00
Central East	0.88 (0.59, 1.32)	1.07 (0.67, 1.70)
Toronto	1.34 (0.93, 1.93)	0.67 (0.45, 1.02)
East	1.13 (0.77, 1.66)	0.96 (0.62, 1.49)
North	1.28 (0.89, 1.83)	0.96 (0.60, 1.54)
Main source of household income		
Salary/Wages†	1.00	1.00
Social assistance	22.43* (15.46, 32.54)	3.69* (2.33, 5.84)
Worker's compensation or Employment Insurance	4.99* (2.18, 11.40)	1.76 (0.63, 4.98)
Pension or seniors' benefits	0.77 (0.56, 1.08)	0.44* (0.29, 0.67)
Other	1.93* (1.23, 3.02)	0.94 (0.55, 1.60)
Household income adequacy		
Lowest	16.46* (10.41, 26.04)	6.90* (3.98, 11.960)
Lower-middle	8.04* (5.73, 11.27)	5.00* (3.35, 7.44)
Middle	3.10* (2.30, 4.18)	2.57* (1.89, 3.50)
Upper-middle†	1.00	1.00
Highest	0.34* (0.22, 0.54)	0.40* (0.25, 0.63)
Not stated	0.82 (0.55, 1.24)	0.81 (0.49, 1.34)
Household type		
Couple with children <25 years old, with or without others†	1.00	1.00
Single	2.01* (1.53, 2.65)	0.98 (0.68, 1.40)
Single parent, children <25 years old	3.01* (2.24, 4.04)	0.99 (0.68, 1.44)
Couple alone	0.61* (0.44, 0.86)	0.81 (0.54, 1.19)
Other household types	2.03* (1.28, 3.20)	1.62 (0.96, 2.71)
Home ownership		
Own dwelling†	1.00	1.00
Do not own dwelling	6.79* (5.48, 8.42)	2.94* (2.28, 3.79)

Notes: n = number of respondents included in analysis, OR = odds ratio, CI = confidence interval.

* Significantly different from estimate for reference category ($p < 0.05$).

† Reference category.

‡ Adjusted for other variables listed in table.

severe food insecurity – a condition marked by indications of reduced food intake and disrupted eating patterns among adults and/or children in the household.⁵ Although sample size limitations precluded a multivariate analysis of socio-demographic characteristics in relation to the severity of household food insecurity in Ontario, the descriptive statistics on this condition compiled by Health Canada indicate that fewer than one third of food-insecure households in Canada and in Ontario were classified as experiencing severe food insecurity.^{5,12} However, 53% of food-insecure households reliant on social assistance in Ontario experienced severe food insecurity, compared with just 23% of food-insecure households reliant on employment incomes.¹²

Despite the extraordinary vulnerability of households on social assistance to food insecurity, it is important to recognize that most food-insecure households in Ontario are reliant on salaries or wages. This is also true nationally; employment earnings were insufficient to protect more than 600,000 Canadian households from food insecurity in 2004.⁵ These findings lend support to calls for a restructuring of income security programs for working-age adults, highlighting the need to look beyond welfare to the full spectrum of programs that impact adults' incomes.^{20,21}

Given the strong associations observed between household food security status and the adequacy of adults' and adolescents' nutrient intakes in this survey,¹³ there can be no question that household food insecurity is a serious public health concern. The fact

Figure 2. Household food security status in Ontario by main source of income

a) Food-insecure households by main source of income

b) Food-secure households by main source of income

that this problem is so tightly linked to problems of income inadequacy highlights the need for a closer alignment of federal, provincial, and territorial income support programs with basic living costs. It is beyond the scope of our work to provide specific recommendations for policy changes that would ensure household food security for all Ontarians. A recent analysis of policy options for improving food security in British Columbia sheds some light on this question,²² but inter-provincial differences in such factors as employment rates, wages, and the structure and delivery of income support programs necessitate province-specific analyses of policy options. Recent examinations of social policies and programs in

Ontario point to some directions for policy reform,^{21,23} but additional evaluation is needed to determine whether the proposed changes will enable households to achieve and maintain food security.

We recommend that Ontario undertake a systematic examination of the interrelationship between household food security and a broad spectrum of current policies, considering those related to minimum wages, Ontario Works, the Ontario Disability Support Program, and other income support programs, as well as policies that relate to the affordability of housing, child care, public transportation, higher education, dental care, prescription medications, special dietary needs, and other expenditures that can impact the food budgets of low-income households. We also recommend that the impact of proposed policy changes on household food security be routinely assessed as part of the process of evaluating the merit of policy options at the provincial, territorial, and federal levels. Only when food security becomes a deliberate policy objective will problems of household food insecurity diminish.

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RÉSUMÉ

Objectifs : Déterminer les facteurs sociodémographiques associés à l'insécurité alimentaire des ménages en Ontario.

Méthodes : À l'aide des données du Ontario Share File sur l'Enquête sur la santé dans les collectivités canadiennes – Cycle 2.2, une analyse de régression logistique multidimensionnelle a été utilisée pour déterminer les caractéristiques sociodémographiques des ménages les plus susceptibles de signaler une insécurité alimentaire.

Résultats : 55 % des quelque 379 100 ménages ontariens qui ont signalé une insécurité alimentaire en 2004 se fiaient aux traitements ou aux salaires, 23 % à l'aide sociale, et 13 % aux revenus de retraite ou aux prestations de sécurité de la vieillesse. Le taux de prévalence de l'insécurité alimentaire a considérablement augmenté proportionnellement à la réduction d'un revenu acceptable, une augmentation de 47 % dans la plus basse catégorie de revenu adéquat. En outre, le taux de prévalence d'insécurité alimentaire était plus élevé dans les ménages de locataires et ceux où résidait une seule personne ou un seul parent. Après avoir pris en compte tous les facteurs sociodémographiques, les trois puissants corrélats sociodémographiques d'insécurité alimentaire domiciliaire suivants ont été déterminés : nature acceptable d'un faible revenu; aide sociale à titre de principale source de revenu; et le fait de ne pas être propriétaire de son logement. Comparativement aux ménages dont les traitements ou les salaires sont les principales sources de revenu, les probabilités corrigées de vivre une insécurité alimentaire étaient de 3,69 (IC95 % : 2,33-5,84) pour les ménages qui se fient à l'aide sociale, mais de 0,44 (IC95 % : 0,29-0,67) pour les ménages qui reçoivent une pension ou des prestations de sécurité de la vieillesse.

Discussion : Nos constatations et conclusions démontrent le besoin de rehausser les niveaux des prestations d'aide sociale, tout en précisant le besoin d'un meilleur soutien du revenu pour les travailleurs ontariens à faible salaire, et ce, pour veiller à ce qu'ils disposent de ressources financières suffisantes pour acheter les aliments dont ils ont besoin.

Mots clés : aliments; facteurs socioéconomiques; Ontario