Coping With Child Hunger in Canada: Have Household Strategies Changed Over a Decade?

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ABSTRACT

Objective: To determine if household coping strategies for child hunger in Canada have changed over a decade (1996-2007).

Methods: We applied t-tests to data derived from Cycle 2 (1996-1997; n=8165) and Cycle 7 (2006-2007; n=15,961) of the National Longitudinal Survey of Children and Youth (NLSCY) to determine changes in household coping strategies for child hunger. Data were restricted to households with children aged 2-9 years, allowing for cross-sectional analysis of two independent samples. Logistic regression was employed to estimate the odds of reporting child hunger for socio-demographic characteristics and the odds of using different coping strategies.

Results: The national prevalence of child hunger fell from 1.5% in 1997 to 0.7% in 2007 ($p<0.001$). The determinants of child hunger (increased child age and household size, lack of home ownership, low household income, lone-parent status, family dysfunction) and hunger frequency (regular versus occasional) were similar in both NLSCY cycles. Utilization of food banks and other community resources as a method of coping with child hunger remained static despite an increase in national food banks/affiliated agencies in Canada (2,141 in 1998 to 3,540 in 2007). In contrast, there was an increased reliance on reducing household food variety, an internal coping mechanism, to manage child hunger (17.6% Cycle 2 to 35.1% Cycle 7; $p=0.03$).

Conclusion: Community outreach programs between 1997 and 2007 had little impact on coping strategies utilized by households facing child hunger. Our results indicate that current initiatives fail to reach these families.

Key words: Children; hunger; food insecurity; coping; poverty; Canada

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

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Child poverty is a public health concern in Canada. Children who live in poor households are more likely to experience inadequate access to food.¹ Food insecurity results from a family's inability to acquire enough food for the household, which is mostly attributed to insufficient income levels.^{2,3} Child hunger is an extreme manifestation of food insecurity and is linked to inadequate dietary intake, putting these children at risk for poor health.^{4,5}

The National Longitudinal Survey of Children and Youth (NLSCY) is a long-term nationally representative survey that monitors child health and development. From its inception in 1994, it has also provided information on child hunger in Canada.^{2,6} The determinants of child hunger or severe food insecurity have been well described in this and other surveys, with increased odds related to lone-parent-led families, increased number of siblings, low parental education, low household income, and main source of income from social services or welfare.^{2,7-9}

Households in which children experience hunger use various coping strategies to overcome deficits in food access.^{10,11} They may cope by using intrahousehold strategies such as the parent or child skipping a meal, or reducing food variety to extend the purchasing power of limited financial resources.^{2,12} Coping can also occur external to the household, such as visiting a food bank and/or seeking help from friends or relatives.^{10,13,14}

To address child hunger specifically, and food insecurity in general, community intervention programming in Canada increased substantially between the 1990s and the first decade of the 2000s.

For example, the number of food banks and affiliated agencies jumped from 2,141 in 1998 to 3,540 in 2007.¹⁵ Provincially-funded child nutrition programs such as Breakfast for Learning were introduced across Canada to provide children with proper food and nutrition to promote healthy living and academic success.¹⁶ Although their original scope was to feed hungry children, these programs have undergone major programmatic and structural changes since their implementation in the 1990s. Their development from a voluntary-based effort targeting food-insecure children towards a provincially-funded strategy to promote healthy eating and prevent obesity has raised questions about their validity as an intervention capable of targeting vulnerable children.¹⁷ Local community kitchens and community gardens, initially founded in an effort to provide sustainable strategies of food production and preparation for households experiencing food insecurity, have also been on the rise during the same time period.^{18,19} As with children's nutrition programs, many of these initiatives have undergone a transformation in the past two decades and have

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Table 1. Comparison of Child Hunger and Coping Strategies

	NLSCY Cycle 2 (1996-1997) (n=8165)	NLSCY Cycle 7 (2006-2007) (n=15,691)	t-test†
National child hunger (%)	1.5	0.7	p<0.001*
Child hunger frequency (%)	n=103	n=102	
Occasional	58.6	65.3	p=0.49
Regular	41.1	34.7	p=0.49
Coping strategies (%)			
Intrahousehold			
Variety reduction	17.6	35.1	p=0.029*
Parent skips meals	33.6	38.0	p=0.65
Any	45.1	62.4	p=0.067
External			
Food bank	34.4	32.8	p=0.85
Friends	23.0	14.1	p=0.30
Relatives	35.1	33.3	p=0.84
Others	20.8	20.0	p=0.92
Any	69.2	61.7	p=0.41

* Cycles are significantly different, p<0.05.

† t-tests performed using bootstrap weights.

turned into generalized programs for healthy eating and local food production, available to entire communities/neighbourhoods. The proliferation of these programs in cities, towns, and rural areas of Canada has been notable.^{20,21} While originally based on non-governmental funds, most provinces in Canada now financially support components of these programs.^{22-24, pp.5-6}

Based on this context, the extent to which these community-based programs are impacting families experiencing child hunger is uncertain.^{25,26} A shift from intrahousehold to external coping strategies over this time period may provide evidence of a beneficial effect of these interventions.

The purpose of this study was to determine if coping strategies have changed in Canadian families reporting child hunger between 1996 and 2007. We utilized two NLSCY cycles to examine differences in coping strategies between two independent samples of households with children experiencing hunger.

METHODS

Data for this study were derived from Cycle 2 (1996/1997) and Cycle 7 (2006/2007) of the NLSCY.⁶ The NLSCY was a long-term survey conducted jointly by Statistics Canada and Human Resources and Skills Development Canada (HRSDC) since 1994, and collected data on the development and well-being of Canadian children on a biennial basis until 2009. It randomly sampled households with children across Canadian provinces and contained both cross-sectional and longitudinal components. Our data set was restricted to households with children aged 2 to 9 years to exclude longitudinal households that were sampled in both cycles, permitting cross-sectional analyses of two independent samples. After restriction, our data included 8,165 respondents for Cycle 2 and 15,691 for Cycle 7.

Questions regarding the child and household circumstances were answered by the person most knowledgeable, who was most often the mother of the child, and the "hunger questions" were identical in each cycle. The NLSCY includes a single question regarding child hunger: "Has your child ever experienced being hungry because the family has run out of food or money to buy food?" Response options are *yes*, *no*, and *don't know*. If respondents answer *yes*, they are asked "How often?" Frequency response options are *regularly*, *end of the month*, *more often than end of each month*, *every few months*, *occasionally*, *not regularly*. For coping strategies, respondents

Table 2. Logistic Regression Model for Child Hunger, NLSCY Cycles 2 and 7

Covariate	Odds Ratio (95% CI)	
	Cycle 2 (1996/1997) n=7752	Cycle 7 (2006/2007) n=15,167
Child female	1.15 (0.64-2.07)	0.97 (0.54-1.73)
PMK† female	0.50 (0.10-1.11)	2.00 (0.15-26.31)
Child age	1.22 (1.04-1.42)**	1.22 (1.06-1.41)**
PMK† age	0.99 (0.94-1.04)	0.97 (0.92-1.03)
Household size‡	1.58 (1.33-2.08)**	1.30 (1.09-1.56)**
Own dwelling	0.19 (0.08-0.43)**	0.32 (0.16-0.63)**
Household income§	0.79 (0.63-0.98)*	0.82 (0.71-0.95)**
Rural residence	0.66 (0.28-1.58)	1.11 (0.52-2.38)
Immigrant	2.99 (0.44-20.37)	(not disclosed)
Education , (ref. BA)		
Less than high school	0.68 (0.29-1.58)	2.04 (0.79-5.31)
HS diploma	1.11 (0.43-2.85)	2.24 (1.01-4.97)*
Some postsecondary	0.65 (0.31-1.37)	2.00 (0.80-4.95)
Marital status (ref. Single)		
Married¶	0.38 (0.17-0.83)**	0.49 (0.25-0.95)**
Widowed, divorced, separated	0.99 (0.46-2.11)	(not disclosed)
Family functioning score††	1.06 (1.01-1.11)*	1.08 (1.02-1.14)**
Health		
Child has asthma	1.95 (0.96-3.96)	1.48 (0.76-2.89)
Parental smoking	1.95 (1.08-3.51)*	1.21 (0.66-2.22)
PMK health‡‡	0.54 (0.26-1.13)	0.52 (0.25-1.08)
Child health‡‡	0.30 (0.10-0.88)*	0.92 (0.09-9.74)
Child in hospital past year	0.35 (0.11-1.13)	1.84 (0.19-17.41)

* Significantly different after weighting, p<0.05; ** p<0.01.

† PMK = Person Most Knowledgeable about the child.

‡ Household size = continuous variable.

§ Income by \$10,000 increments.

|| Highest education in household.

¶ Includes common-law.

†† Higher score = more dysfunction.

‡‡ Self-reported health, excellent=5; poor=1.

are asked "How do you cope with feeding this child when this happens?" Response choices include *reduce food variety*, *parent skips meals*, *child skips meals*, *seek help from food bank*, *seek help from relatives*, *seek help from friends*, *seek help from social worker*, *use school meal program*, *use other services*.

Child hunger severity was classified as "regular" (*regularly; more often than end of month*) or "occasional" (*occasionally; every few months*). Coping strategies were categorized as either *intrahousehold* (reduce food variety, parent skips meals, child skips meals) or *external* (food bank use, help from friends, help from relatives, or other (help from social worker, school meal program, other services)). Descriptive statistics and t-tests (with bootstrap weights) were used to compare changes in child hunger and coping strategies between Cycle 2 and Cycle 7 with significance set at p<0.05. Logistic regression was employed to determine the comparability of hunger determinants over time using child hunger as the dichotomous outcome. Covariates (child sex, child age, household size, home ownership, household income, parental education, parental smoking, marital status, parental health, region, and rural versus urban residence) were chosen to reflect socio-demographic characteristics of children and households that have previously been identified as associated with food insecurity.^{2,7-9,27,28} Previous studies of the NLSCY have examined child hunger in relation to additional covariates, also examined here, including child health status; presence of a chronic condition, including asthma; hospitalization within the past year; family functioning; and characteristics of the person most knowledgeable about the child (PMK).^{2,5} Two parsimonious models for estimating the odds of different coping strategies were assessed by logistic regressions using cross-sectional weights provided by NLSCY. Ethical approval was received from the Conjoint Health Research Ethics Board at the University of Calgary.

Table 3. Logistic Regression Models for Intrahousehold and External Coping Strategies for Child Hunger, Considering Region of Canada, NLSCY Cycles 2 and 7

Covariates	Intrahousehold Strategies Odds Ratio (95% CI)		External Strategies Odds Ratio (95% CI)	
	Cycle 2 n=103	Cycle 7 n=101	Cycle 2 n=103	Cycle 7 n=101
Child female	2.07 (0.68-6.34)	0.41 (0.12-1.43)	0.60 (0.19-1.91)	0.82 (0.25-2.67)
PMK† female	25.57 (2.13-307.15)*	0.06 (0.0018-1.71)	0.16 (0.27-0.92)*	18.33 (0.51-654.30)
Child age	1.09 (0.85-1.40)	0.71 (0.51-0.97)	1.10 (0.84-1.46)	1.40 (0.94-2.08)
PMK† age	0.98 (0.90-1.08)	1.16 (1.01-1.33)*	0.98 (0.88-1.10)	0.97 (0.88-1.07)
Household size‡	1.06 (0.75-1.51)	0.72 (0.46-1.11)	0.92 (0.63-1.33)	0.70 (0.48-1.02)
Own dwelling	1.07 (0.24-4.73)	1.52 (0.33-6.92)	0.79 (0.17-3.75)	0.45 (0.087-2.27)
Household income§	0.96 (0.60-1.54)	1.17 (0.88-1.55)	0.86 (0.57-1.30)	0.82 (0.60-1.13)
Region (ref. Ontario)				
Atlantic Canada	1.05 (0.19-5.88)	0.21 (0.026-1.69)	0.34 (0.067-1.69)	9.66 (1.05-88.98)*
Quebec	0.69 (0.13-3.51)	0.57 (0.086-3.73)	0.57 (0.11-2.95)	0.68 (0.12-3.83)
Prairies	1.39 (0.33-5.82)	0.12 (0.022-0.61)*	1.11 (0.21-5.94)	5.26 (1.004-27.53)*
British Columbia	1.65 (0.29-9.24)	0.08 (0.012-0.54)**	1.00 (0.13-7.54)	10.45 (1.39-78.60)*

* Significantly different after weighting, $p < 0.05$; ** $p < 0.01$.

† PMK = Person Most Knowledgeable about the child.

‡ Household size = continuous variable.

§ Income by \$10,000 increments.

Table 4. Logistic Regression Models for Intrahousehold and External Coping Strategies for Child Hunger, Considering Health, NLSCY Cycles 2 and 7

Covariates	Intrahousehold Strategies Odds Ratio (95% CI)		External Strategies Odds Ratio (95% CI)	
	Cycle 2 n=85	Cycle 7 n=97	Cycle 2 n=92	Cycle 7 n=93
Child female	1.62 (0.46-5.72)	0.52 (0.13-2.11)	0.56 (0.11-2.99)	0.58 (0.16-2.07)
PMK female†	(not disclosed)	0.17 (0.003-11.10)	0.12 (0.017-0.89)*	6.7 (0.72-62.53)
Child age	1.13 (0.80-1.58)	0.52 (0.34-0.79)*	1.17 (0.84-1.64)	1.85 (1.11-3.08)*
PMK age†	1.00 (0.89-1.12)	1.36 (0.34-1.64)	0.89 (0.80-1.004)	0.87 (0.76-0.99)*
Household size‡	0.96 (0.66-1.39)	0.51 (0.13-1.02)	0.96 (0.63-1.47)	0.92 (0.57-1.49)
Own dwelling	0.71 (0.10-4.90)	1.42 (0.26-7.60)	2.86 (0.36-22.85)	1.60 (0.32-8.08)
Household income§	0.80 (0.48-1.33)	1.21 (0.26-1.58)	1.14 (0.71-1.82)	0.63 (0.44-0.91)*
Rural residence	0.49 (0.054-4.36)	0.23 (0.044-1.24)	0.64 (0.057-7.16)	2.15 (0.39-11.89)
Family functioning score	1.14 (0.97-1.34)	0.87 (0.78-0.98)*	0.89 (0.75-1.04)	1.08 (0.95-1.24)
Education¶ (ref. BA)				
Less than high school	0.27 (0.034-2.06)	8.45 (0.99-72.07)	3.65 (0.44-30.15)	0.47 (0.032-6.90)
HS diploma	0.30 (0.032-2.84)	7.38 (1.03-52.81)	15.35 (1.56-150.7)*	0.07 (0.007-0.77)*
Some postsecondary	0.72 (0.13-3.92)	0.38 (0.056-2.65)	0.83 (0.17-4.07)	26.39 (0.91-768.2)
Marital status (ref. Single)				
Married**	6.01 (0.95-38.13)	1.47 (0.27-8.04)	0.11 (0.016-0.83)*	0.91 (0.14-5.76)
Widowed, divorced, separated	1.97 (0.27-14.36)	(not disclosed)	5.15 (0.41-65.26)	(not disclosed)
Health				
Child has asthma	4.56 (0.94-22.20)	3.76 (0.58-24.19)	0.28 (0.042-1.82)	4.74 (0.59-38.08)
Smoking	2.17 (0.50-9.35)	1.37 (0.39-4.84)	2.65 (0.48-14.60)	0.88 (0.17-4.64)
PMK health††	2.79 (0.62-12.48)	1.50 (0.29-7.92)	1.36 (0.26-7.19)	11.20 (0.22-6.65)
Child health††	2.41 (0.24-24.41)	7.25 (0.64-82.52)	0.09 (0.011-0.68)*	(not disclosed)
Child in hospital past year	0.17 (0.0059-4.94)	12.78 (1.75-93.0)*	0.17 (0.0084-3.24)	0.06 (0.0002-26.61)

* Significantly different after weighting, $p < 0.05$.

† PMK = Person Most Knowledgeable about the child.

‡ Household size = continuous variable.

§ Income by \$10,000 increments.

|| Higher score = more dysfunction.

¶ Highest education in household.

** Includes common-law.

†† Self-reported health, excellent=5; poor=1.

RESULTS

Child hunger is a relatively rare event with a prevalence of 1.5% ($n=103$) in 1997, falling significantly ($p < 0.001$) to 0.7% ($n=102$) in 2007 (Table 1). A majority of households in both cycles of the NLSCY described child hunger as occasional; however, regular hunger was reported by 41.1% of households in Cycle 2 and 34.7% in Cycle 7 (Table 1). Significant factors related to child hunger, consistent in both NLSCY cycles, were older child age, increased household size, lack of home ownership, low household income, poor family functioning status, and lone-parent-led household (Table 2).

Table 1 also presents the frequency of coping strategies used within the household or through external resources for each cycle. Of note, child skips meal, school program used, seeks help from social worker, or help from other sources were so infrequently reported that their

cell sizes were too small for disclosure according to Statistics Canada guidelines;⁶ thus, they are captured under “other” external strategies. Most households typically utilized more than one strategy, and there was an overlap between intrahousehold and external strategy users (and too small numbers to look at exclusive users by dichotomous coping categories). In Cycle 2, external coping strategies were more commonly used than intrahousehold strategies (69.2% vs. 45.1%, $p=0.26$, respectively); however, in Cycle 7, these strategies were similarly employed (61.7% external vs. 62.4% intrahousehold).

Between cycles, there was no change in the percentage of households using specific external coping strategies such as using food banks or seeking assistance from relatives or friends. There was a significant increase in the percentage of households reducing food variety from Cycle 2 to Cycle 7.

Separate regression analyses were conducted to determine the odds of households using intrahousehold strategies and those using external strategies to help them cope with child hunger, considering two areas of potential differential vulnerability: 1) region of Canada, representing different policy environments and accessibility to community intervention programs, such as food banks (Table 3); and 2) health issues, which require additional coping by the family which might limit resources for food, especially in poorer families (Table 4). In Cycle 7 of the regional model, households in British Columbia, the Prairies and Atlantic Canada were more likely to use external rather than intrahousehold coping strategies compared with residents of the province of Ontario (Table 3). This result could be interpreted as decreased utilization of external coping strategies in the reference province Ontario, (likely) between 1996 and 2007, or changes in coping strategies used in three of the other five regions of Canada. In Cycle 7 of the health model, where a child was younger and had been hospitalized within the past year, there was greater likelihood that intrahousehold coping strategies were utilized (Table 4).

DISCUSSION

Child hunger is an extreme manifestation of household food insecurity that has impacts on both health and social well-being.^{4,5} Despite a significant decrease in the prevalence of child hunger in Canada over a period of 10 years, we found that the socio-demographic factors that contribute to child hunger remained constant. The similarity of determinants across NLSCY cycles suggests that the observed decrease in prevalence is associated with changes in macroeconomic conditions within Canada, rather than changes in the specific vulnerability of disadvantaged groups. This is supported by the fact that the depth of child hunger (occasional versus regular) did not change, indicating an overall reduction of hunger prevalence rather than a change in the characteristics of households with hungry children. The lack of any change in the profile of those reporting child hunger points to limitations in targeted child tax and benefit policies to provide sufficient support to those most vulnerable to child poverty.

Our analysis revealed that not only the determinants, but also the coping strategies utilized by families experiencing child hunger have remained similar over a decade of observation. Despite the substantial increase in the number of community-based interventions aimed to combat food insecurity (such as food banks, school programs, community kitchens and gardens),¹⁷⁻²¹ the proportion of hungry households taking advantage of these programs did not change between 1996 and 2007, arguing for a lack of beneficial effect of these interventions for this population over this time period.

The majority of Canada's current community-based food insecurity programs focus on providing households with either actual food (food banks, school programs),²⁵ or personal capacity-building (community kitchens and gardens).^{12,18,19} These programs have either failed to reach families experiencing child hunger or have been avoided by these families for reasons that are unclear in the data.

The time period 1996-2007 also saw a significant increase in the number of families using food variety reduction as a mechanism of coping. This is likely related to food price increases which have exceeded inflationary increases.^{29, p.17} Diet quality compromises are

a component of food insecurity.³⁰ A decrease in food variety may also occur as families utilize strategies to make their food purchases last longer, which may include diluting milk and juice purchases to extend the life of these products for their children.^{13,31}

The fact that food-insecure households seem to rely of late more on internal coping strategies might indicate that food insecurity and specifically, child hunger, are increasingly regarded as private matters that should stay within family boundaries. It has been previously shown that food-insecure households in Canada more often choose to compromise their nutrition by eating cheaper foods (46%) and skipping meals or eating less (28%), rather than receive food from charity (22%).¹⁴ Similarly, our finding that intrahousehold strategies are more common among families engaged in the health system as represented by having a child hospitalized within the previous year suggests that a time trade-off between seeking health services and seeking food support outside of the home might be at play.³²

On the other hand, the trend in the adoption of more intrahousehold coping strategies in 2007 compared with a decade earlier was most pronounced in Ontario, which saw major political change over the period that might have contributed to the types of coping strategies families used. Cycle 2 data were collected during a conservative government regime that cut welfare rates in 1995 by 22%, and in that year enacted legislation that penalized households for receiving regular gifts from family members³³ – these policies are thought to have contributed to increased food bank use, an external coping strategy.³⁴ Cycle 7 data were collected five years into the mandate of a liberal government in the province which had just been re-elected on a campaign of poverty reduction.³⁵

Given evidence for the strong correlation between a family's income and food insecurity,^{8,9} and given that Canadian families reporting child hunger are relying more on intrahousehold coping strategies than they did in the past, for whatever reason, despite the proliferation of external food resources, it is ever more apparent that income supports directed at vulnerable families are key to reducing child hunger whether economic times are good or poor.

The NLSCY offered us an invaluable data set and precious opportunity to study child hunger in Canada by providing us with a natural experiment spanning a decade which would have been impossible to set up deliberately. These households represent one of the most vulnerable populations among food-insecure Canadians, and thus it is vital to collect evidence about the adequacy of current interventions. The strength of this study is the creation of two independent samples representing the rare but socially important condition of child hunger in Canada studied over a decade with consistent questions on coping strategies employed, buttressed with detailed socio-demographic data. The main weakness is the small numbers, with several results incorporating wide confidence limits; this is not unexpected as child hunger represents an extreme of food insecurity in Canada.

CONCLUSIONS

The types and distribution of coping strategies used by families reporting child hunger did not change between 1996 and 2007, with the exception that reduced food variety increased significantly. External food supports were not taken up by these families whose vulnerability characteristics also remained unchanged over the decade. Income supports are needed so that households facing

childhood hunger are not forced into choices that compromise nutrition.

REFERENCES

- Kirkpatrick SI, Tarasuk V. Food insecurity is associated with nutrient inadequacies among Canadian adults and adolescents. *J Nutr* 2008;138(3):604-12.
- McIntyre L, Connor SK, Warren J. Child hunger in Canada: Results of the 1994 National Longitudinal Survey of Children and Youth. *CMAJ* 2000;163(8):961-65.
- Ricciuto LE, Tarasuk VS. An examination of income-related disparities in the nutritional quality of food selections among Canadian households from 1986-2001. *Soc Sci Med* 2007;64(1):186-98.
- Weinreb L, Wehler C, Perloff J, Scott R, Hosmer D, Sagor L, et al. Hunger: Its impact on children's health and mental health. *Pediatrics* 2002;110(4):e41.
- Kirkpatrick SI, McIntyre L, Potestio ML. Child hunger and long-term adverse consequences for health. *Arch Pediatr Adolesc Med* 2010;164(8):754-62.
- Statistics Canada 2010. National Longitudinal Survey of Children and Youth (NLSCY). Available at: <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=4450&lang=en&db=imdb&adm=8&dis=2> (Accessed March 1, 2012).
- Che J, Chen J. Food insecurity in Canadian households. *Health Rep* 2001;12(4):11-22.
- Ledrou I, Gervais J. Food insecurity. *Health Rep* 2005;16(3):47-51.
- Office of Nutrition Policy and Promotion. Income-Related Household Food Security in Canada. H164-42/2007E. Ottawa, ON: Health Canada, 2007.
- McIntyre L, Glanville NT, Raine KD, Dayle JB, Anderson B, Battaglia N. Do low-income lone mothers compromise their nutrition to feed their children? *CMAJ* 2003;168(6):686-91.
- Sim SM, Glanville NT, McIntyre L. Food management behaviours in food-insecure, lone mother-led families. *Can J Diet Pract Res* 2011;72(3):123-29.
- McIntyre L, Raine K, Dayle JB. The institutionalization of children's feeding programs in Atlantic Canada. *Can J Diet Pract Res* 2001;62(2):53-57.
- Dachner N, Ricciuto L, Kirkpatrick SI, Tarasuk V. Food purchasing and food insecurity among low-income families in Toronto. *Can J Diet Pract Res* 2010;71(3):e50-e56.
- Rainville B, Brink S. Food insecurity in Canada, 1998-1999. Ottawa, ON: Human Resources Development Canada, Applied Research Branch of Strategic Policy, 2001.
- Food Banks Canada. HungerCount 2011. Toronto, ON: Food Banks Canada, 2011. Available at: <http://foodbanksCanada.ca/getmedia/dc2aa860-4c33-4929-ac36-fb5d40f0b7e7/HungerCount-2011.pdf.aspx> (Accessed March 1, 2012).
- Henry C, Vandale C, Whiting S, Woods F, Berenbaum S, Blunt A. Breakfast/Snack Programs in Saskatchewan Elementary Schools: Evaluating Benefits, Barriers, and Essential Skills. Saskatoon, SK: Community University Institute for Social Research, University of Saskatchewan, 2005. Available at: http://www.usask.ca/cuisr/docs/pub_doc/health/Henryetal.pdf (Accessed March 1, 2012).
- Raine K, McIntyre L, Dayle JB. The failure of charitable school- and community-based nutrition programmes to feed hungry children. *Critical Public Health* 2003;13(2):155-69.
- Engler-Stringer R, Berenbaum S. Collective kitchens in Canada: A review of the literature. *Can J Diet Pract Res* 2005;66(4):246-51.
- Crawford SM, Kalina L. Building food security through health promotion: Community kitchens. *J Can Diet Assoc* 1997;58:197-201.
- Fairholm J. Urban Agriculture and Food Security Initiatives in Canada: A Survey of Canadian Non-governmental Organizations. Ottawa, ON: International Development Research Centre, 1999. Available at: http://lifecyclesproject.ca/resources/downloads/food_security_survey.pdf (Accessed May 22, 2012).
- Toronto Green Community. Programs, Food Security Links. Available at: <http://www.torontogreen.ca/index.php/programs-mainmenu-121/sustainable-food/food-security-database.html> (Accessed May 22, 2012).
- Atlantic Regional Office, Public Health Agency of Canada, and Atlantic Regional Office, Health Canada. Healthier Food, Healthier People Project. A Joint Initiative, 2007. Available at: http://www.phac-aspc.gc.ca/canada/regions/atlantic/Publications/Healthier_food/Healthier_Food_E.pdf (Accessed May 22, 2012).
- Epp S. Provincial Approaches to Food Security. Manitoba: Food Matters Manitoba and the Manitoba Alternative Food Research Alliance, 2011. Available at: <http://bitsandbytes.ca/sites/bitsandbytes.ca/files/provincial%20policy%20scan.pdf> (Accessed May 22, 2012).
- Centre for Science in the Public Interest. A National Nutritious School Meal Program for Canadian Children, 2009. Available at: <http://cspinet.org/canada/pdf/child-nutrition-background-jan2009-budget.pdf> (Accessed May 22, 2012).
- Tarasuk V. A critical examination of community-based responses to household food insecurity in Canada. *Health Educ Behav* 2001;28(4):487-99.
- Hamelin AM, Mercier C, Bedard A. Perceptions of needs and responses in food security: Divergence between households and stakeholders. *Public Health Nutr* 2008;11(12):1389-96.
- Tarasuk V, Vogt J. Household food insecurity in Ontario. *Can J Public Health* 2009;100(3):184-88.
- Tarasuk V. Household food insecurity with hunger is associated with women's food intakes, health and household circumstances. *J Nutr* 2001;131(10):2670-76.
- Statistics Canada 2011. Canada at a Glance. Available at: <http://www.statcan.gc.ca/pub/12-581-x/12-581-x2011000-eng.pdf> (Accessed March 1, 2012).
- Glanville NT, McIntyre L. Diet quality of Atlantic families headed by single mothers. *Can J Diet Pract Res* 2006;67(1):28-35.
- Williams PL, McIntyre L, Dayle JB, Raine K. The 'wonderfulness' of children's feeding programs. *Health Promot Int* 2003;18(2):163-70.
- McIntyre L, Officer S, Robinson LM. Feeling poor: The felt experience. Low-income lone mothers. *Affilia* 2003;18(3):316-31.
- City of Toronto. Gifts, Loans and Donations, 2010. Available at: http://www.toronto.ca/socialservices/Policy/gifts_loans.htm (Accessed March 1, 2012).
- McMullin JA, Davies L, Cassidy G. Welfare reform in Ontario: Tough times in mothers' lives. *Can Public Policy* 2002;28(2):297-314.
- Maxwell G (Community Development Halton, Social Planning Network of Ontario). Poverty reduction policies and programs in Ontario: Poverty in Ontario – Failed promise and the renewal of hope: Social Development Report Series 2009. Canadian Council on Social Development, 2009. Available at: http://www.ccsd.ca/Reports/ON_Report_FINAL.pdf (Accessed March 1, 2012).

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RÉSUMÉ

Objectif : Déterminer si les stratégies d'adaptation des ménages à la faim chez leurs enfants au Canada ont changé sur une période de 10 ans (1996-2007).

Méthode : Nous avons appliqué des tests t aux données dérivées du cycle 2 (1996-1997; n=8 165) et du cycle 7 (2006-2007; n=15 961) de l'Enquête longitudinale nationale sur les enfants et les jeunes (ELNE) afin de déterminer les changements dans les stratégies d'adaptation des ménages à la faim chez leurs enfants. Les données ont été limitées aux ménages avec enfants de 2 à 9 ans, ce qui a permis une analyse transversale de deux échantillons indépendants. Par régression logistique, nous avons estimé la probabilité pour les répondants de déclarer la faim chez leurs enfants selon le profil sociodémographique, et la probabilité d'utiliser différentes stratégies d'adaptation.

Résultats : La prévalence nationale de la faim chez les enfants a diminué, passant de 1,5 % en 1997 à 0,7 % en 2007 (p<0,001). Les déterminants de la faim chez les enfants (augmentation de l'âge des enfants et de la taille des ménages, non-propriété, faible revenu des ménages, monoparentalité, dysfonction familiale) et la fréquence de la faim (régulière ou occasionnelle) étaient semblables dans les deux cycles de l'ELNE. Le recours aux banques alimentaires et à d'autres ressources communautaires comme méthode d'adaptation à la faim des enfants est demeuré stable malgré l'augmentation du nombre de banques alimentaires nationales et d'organismes affiliés au Canada (2 141 en 1998 contre 3 540 en 2007). Par contre, il y a eu un recours accru à la réduction de la variété dans l'alimentation des ménages – un mécanisme d'adaptation interne – pour composer avec la faim chez les enfants (de 17,6 % au cycle 2 à 35,1 % au cycle 7; p=0,03).

Conclusion : Les programmes d'extension des services à la communauté menés entre 1997 et 2007 ont eu peu d'effet sur les stratégies d'adaptation utilisées par les ménages confrontés à la faim chez leurs enfants. Nos résultats montrent que les initiatives actuelles ne joignent pas ces familles.

Mots clés : enfant; faim; insécurité alimentaire; adaptation; pauvreté; Canada