

# Prenatal and Child Nutrition Programs in Relation to Food Insecurity

---

NICHOLAS VOZORIS AND VALERIE TARASUK  
DEPARTMENT OF NUTRITIONAL SCIENCES, FACULTY OF MEDICINE  
UNIVERSITY OF TORONTO

The 1980s and 1990s in Canada were characterized by persistently high rates of poverty, unemployment and underemployment, but also by the steady erosion of the welfare state. Through this period, household food insecurity<sup>1</sup> emerged as a serious social problem and significant public health concern (Agriculture and Agri-Food Canada, 1998; Campbell, 1991; Davis, Katamay, Desjardins, Sterken & Patillo, 1991; Joint Steering Committee, 1996). Popularly termed “hunger,” the first indications of this problem were the large and ever-growing number of people seeking charitable food assistance (Davis & Tarasuk, 1994; Riches, 1997; Wilson, 1999). Although initially construed as temporary relief operations, the food banks hastily established in the 1980s by community groups to respond to this need now appear to have become entrenched (Riches, 1997; Tarasuk & Davis, 1996). Despite these charitable efforts and a myriad of other community responses (Tarasuk, 2001a), many Canadians still report serious food shortages, hunger, and food deprivation (Antoniades & Tarasuk, 1998; Badun, Evers & Hooper, 1995; Che & Chen, 2001; Dachner & Tarasuk, 2002; Hamelin, Beaudry & Habicht, 2001; Jacobs Starkey, Kuhnlein & Gray-Donald, 1998; McIntyre, Connor & Warren, 2000; McIntyre, Glanville, Officer, Anderson, Raine & Dayle, 2002; Tarasuk & Beaton, 1999a; Vozoris & Tarasuk, 2003).

Although economic conditions have improved in recent years, governments in most provinces appear resistant to improving income supports for welfare recipients. However, the federal government has been providing funding for community-based prenatal nutrition support programs for low-income, high-risk pregnant women since 1994 (Health Canada, 2001). As well, several provincial governments are now providing funding for school meal programs that, to some

extent, appear to stem from concerns about hunger among children in low-income communities (British Columbia Ministry of Education and Ministry Responsible for Multiculturalism and Human Rights, 1994; Government of Newfoundland & Labrador, 2000; Government of New Brunswick, 2002; Government of Ontario, 1996; Government of Saskatchewan, 2000; Government of Yukon, 1998; Hyndman, 2000; McIntyre, Travers & Dayle, 1999). Both initiatives provide free or low-cost food to their low-income participants, and they can be seen, at least in part, as public policy responses to food security-related concerns. They represent a significant departure from the emphasis on income support programs that has historically characterized social security in Canada and, in some instances, these initiatives even appear to be framed as partial alternatives to welfare incomes (Government of Ontario 2001; Government of Yukon 1998). As a public policy direction for federal, provincial, and territorial governments, the funding of targeted feeding programs merits critical examination.

In this paper, we estimate the potential contribution of prenatal and child nutrition programs to individual participants' total food needs and explore the question of what impact such programs might have on problems of household food insecurity. We begin with a brief overview of the recent emergence of community-based food security programs in Canada in the context of changing social policies. The Canada Prenatal Nutrition Program (CPNP) and provincially-funded school nutrition programs are then described, and their income transfer function in relation to problems of household food insecurity are discussed. The potential contribution of prenatal and school nutrition programs to household needs is appraised by examining the financial contribution of free food obtained in these programs to the household budget of Toronto households supported by welfare, and estimating the capacity of these programs to offset the financial hardship these households face. Our purpose here is not to question the literature documenting the importance of nutrition during pregnancy or in relation to children's growth, development, and cognitive performance, but rather to examine prenatal and school nutrition programs from the perspective of their contribution to household food security. Our focus on welfare recipients in Toronto reflects concerns about their particular vulnerability to food insecurity (Vozoris, Davis & Tarasuk, 2002).

### **The Erosion of Social Supports for Low-Income Canadians**

In the context of globalization, economic restructuring, and an emphasis on deficit reduction, successive Canadian governments through the 1980s and 90s undertook measures to curtail social spending (Griffin Cohen, 1997). In 1996, the Canada Assistance Plan was replaced by the Canada Health and Social Transfer (CHST), a system of "block funding" for health, post-secondary education, welfare, and social services that was accompanied by large cuts to federal payments to the

provinces and territories (National Council of Welfare, 2000). Provinces were no longer required to provide income support on the basis of need and need alone; nor were they required to have welfare appeals procedures (Battle, 1997). During the 1990s, provincial and territorial governments froze or reduced welfare benefit levels and began restructuring programs to reduce welfare budgets (National Council of Welfare, 1997; National Council of Welfare, 2000). Welfare recipients' access to special, supplementary benefits for moving costs, dental care, vision care, etc was eliminated or severely curtailed (National Council of Welfare, 1997). Many provinces allocated increased resources to the investigation of welfare fraud (National Council of Welfare, 1997), and some introduced workfare programs. Although economic conditions in Canada have improved in recent years, welfare incomes in most provinces have not improved. The National Child Benefit Supplement, a component of the Canada Child Tax Benefit introduced by the federal government in July, 1998, was, from its inception, clawed back from families on welfare in every province except Newfoundland and New Brunswick (National Council of Welfare, 2000). In 2001, Nova Scotia, Quebec, and to a lesser extent Manitoba (only for households with children under seven years of age) ceased the clawback of the National Child Benefit Supplement from welfare families, but there is no indication that other provinces or territories plan to follow suit (National Council of Welfare, 2002).

Other programs designed to lessen financial hardships for particular groups were also terminated or eroded during the 1990s. The federal government cut its support for unemployment insurance, tightening eligibility criteria, reducing benefit levels for many recipients, and decreasing the duration of benefit periods (Griffin Cohen, 1997). As well, the federal government and most provinces terminated funding for the development of social housing (Wekerle, 1997). The introduction of policies in some provinces to strengthen the private housing market through reductions in rent controls, housing standards, or zoning provisions and through the privatization of public housing have further disadvantaged low-income groups (Wekerle, 1997). Welfare shelter allowances intended to replace government-funded housing supply programs, appear insufficient to offset the burden of private market rents in cities with low vacancy rates and a dwindling stock of low-cost housing (Vozoris et al., 2002; Wekerle, 1997). Further, these schemes fail to encourage the construction of new affordable housing by the private sector (Wekerle, 1997) and thus to alleviate the affordable housing "crisis" in major urban centres (Federation of Canadian Municipalities, 2000).

### **Food Insecurity and Community-based Food Programs**

Although food insecurity is not systematically monitored in Canada, results of an analysis of three questions about food insecurity included on the 1998/99 National

Population Health Survey indicated that at least 10 per cent of Canadians (about 3 million) were in food-insecure households (Che & Chen, 2001). Of these, 58 per cent of households that reported social assistance to be their primary source of income were food insecure (Che & Chen, 2001), highlighting the particular vulnerability of welfare recipients to food insecurity. An analysis of data from the 1994 National Longitudinal Survey of Children and Youth revealed that families who reported child hunger (a manifestation of severe household food insecurity) were 13 times more likely to report income from social assistance or welfare than those who did not report child hunger (McIntyre et al., 2000). Indirect indication of welfare recipients' vulnerability to food insecurity comes from the fact that they comprise the majority of food bank users (Davis & Tarasuk, 1994; Jacobs Starkey et al., 1998; Ontario Association of Food Banks, 2000; Riches, 1997; Tarasuk & Beaton, 1999a; Wilson, 1999). The inadequacy of welfare benefit levels to meet basic living expenses has also been documented through income-expenditure comparisons (Emes & Kreptul, 1999; Vozoris et al., 2002).

Not coincidentally, as publicly-funded income support programs for the poor and unemployed have been eroded and concerns about hunger and food insecurity have mounted, community-based initiatives to help these groups meet their basic needs have burgeoned. Charitable food assistance is now occurring on a scale not witnessed since the Great Depression of the 1930s (Davis & Tarasuk, 1994), and food drives (i.e., the active solicitation of food donations to "help feed the hungry") have become a routine part of Canadian life. Food banks have become "key institutions in the newly resurrected residual welfare state with governments relying on them, as charitable partners providing feeding programmes of last resort" (Riches, 2002, p. 654). Acceptance of food insecurity as an ongoing, rather than transitory problem, coupled with growing concerns about the adequacy and appropriateness of food banks as a response to this problem (Hobbs, MacEachern, McIvor & Turner, 1993; Jacobs Starkey et al., 1998; Riches, 1986; Riches, 1989; Riches, 1997; Tarasuk & Davis, 1996; Tarasuk & Maclean, 1990a), has spawned the quest for alternative responses. A variety of other community-based food security programs have been initiated, including community kitchens, targeted food skills and nutrition education programs, community gardens, food buying clubs, farmers' markets, and food box programs (Kalina, 1993; Tarasuk, 2001a). Within the array of current initiatives, two relatively widespread programs—prenatal and child nutrition programs—are now supported through federal and provincial policies. These programs are examined in more detail below.

Although prenatal nutrition programs have long existed, in July 1994 the federal government initiated CPNP to develop or enhance programs to improve birth outcomes of at-risk women (Health Canada, 2001). This program provides funding for community-based groups to offer supports such as nutrition, educa-

tion, social support, and assistance with access to health and social services to low-income, high-risk pregnant women (Health Canada, 2001). Women are eligible to participate in the programs throughout their pregnancy and for six months post-partum. The expenditures for this program were estimated to total \$85 million by the end of fiscal year 1997/1998 (Health Canada, 1995). In 1999, federal funding was increased by \$75 million over three years to expand the reach and number of local programs (Health Canada, 2001). There are currently 277 CPNP projects operating in more than 680 communities across Canada (Health Canada, 2001).

Child nutrition programs operate across the country as well, offering breakfast, lunch, snacks, and milk to children in schools and community centres (Canadian Educational Association, 1989; Hyndman, 2000; Papamandjaris, 2000). Most programs are targeted to children in elementary schools (Papamandjaris, 2000). Although Canada does not operate a nationally-funded child nutrition program, child nutrition programs have become a part of government policy in many provinces and territories and receive government funding (British Columbia Ministry of Education and Ministry Responsible for Multiculturalism and Human Rights, 1994; Government of Newfoundland & Labrador, 2000; Government of New Brunswick, 2002; Government of Ontario, 1996; Government of Saskatchewan, 2000; Government of Yukon, 1998; Hyndman, 2000; McIntyre et al., 1999). For example, in 1996 the Ontario provincial government officially launched "Ontario Breakfast for Learning," a partnership with the Canadian Living Foundation, to help groups establish and expand local child nutrition programs (Government of Ontario, 1996). By 2000, there were 305 child nutrition programs operating in Toronto alone (Food and Hunger Action Committee, 2000). Many child nutrition programs in Canada were initially developed on an ad hoc basis, in response to perceptions of hunger and inadequate nutrition among children in low-income communities (Hay 2000; McIntyre, Raine & Dayle, 2001a; McIntyre & Dayle, 1992).

However, over time these programs began attempting to address multiple goals, such as providing nutritious meals for children of all socioeconomic backgrounds, helping families cope with morning-time stress, offering nutrition education, and encouraging positive social habits (Brown, 1993; Hay, 2000; Hyndman, 2000; McIntyre et al., 1999; Papamandjaris, 2000). One suggested reason for the multiple or shifting goals is the inability of programs to demonstrate reduced hunger and enhanced nutrition (Hay, 2000). Questions have been raised about the appropriateness and effectiveness of publicly-funded child nutrition programs as a means to address child hunger that arises in the context of household poverty and food insecurity (Dayle, McIntyre & Raine-Travers, 2000; Hay, 2000; McIntyre et al., 1999).

Although the prenatal and child nutrition programs described here have

multiple objectives, their provision of food assistance appears, at least in part, to be designed to offset some of the more devastating consequences of chronically compromised food intakes—i.e., impaired learning among children and increased risk of poor birth outcomes for women who become pregnant. Through their provision of free or reduced-cost food, both programs function as a form of income transfer, effectively supplementing the household incomes of those who participate. Given the inextricable link between problems of household food insecurity and income inadequacy in Canada (Che & Chen, 2001; McIntyre et al., 2000; McIntyre et al., 2002; Tarasuk & Beaton, 1999a; Tarasuk, 2001b; Vozoris & Tarasuk, 2003), interventions that affect the material circumstances of low-income households will affect their food security. Thus assessing the contribution of program participation to household financial circumstances yields insight into the potential impact of the programs on household food insecurity. This study was undertaken to i) estimate the contribution of individuals' participation in CPNP and child nutrition programs to their total food needs, ii) estimate the potential financial contribution that these programs make to the actual household food budget of Toronto households supported by welfare, and iii) assess the capacity of these programs to offset the financial hardship these households face when living in market rental accommodation.

### **Methods**

The contribution of CPNP-funded projects and child nutrition programs to individuals' total food needs and to the food costs of four hypothetical households assumed to be living in Toronto in 1999 in private market accommodation and supported by Ontario Works (welfare) was calculated. The financial contributions of the programs were then examined in relation to households' estimated monthly incomes and the expenses estimated to be necessary to achieve a basic standard of living (Vozoris et al., 2002). The four households were designed to correspond to the categories used to determine welfare benefit levels and, within those categories, to reflect the compositions most commonly found among low-income households of these types (National Council of Welfare 1999). In January 2000, 30,443 unattached individuals, 31,473 sole-support parents, and 11,557 couples were receiving Ontario Works in Toronto (personal communication, Ontario Ministry of Community and Social Services, March 1, 2000).

In the absence of data on individuals' actual food intakes and food expenditure patterns, food needs and costs were estimated from the May 1999 costing by Toronto Public Health of the Ontario Nutritious Food Basket in Toronto, a market basket of foods developed by Health Canada in conjunction with the Ontario Ministry of Health (Basrur, 1999). The selection and quantities of food in the basket are designed to reflect nutrition recommendations for individuals (embod-

ied in Canada's Food Guide to Healthy Eating (Health and Welfare Canada and Ontario Ministry of Health 1993) and Nutrition Recommendations (Scientific Review Committee 1990) and average purchasing patterns in Ontario, yet be moderate in price (Basrur, 1999) (see Appendix 1). The monthly food expenses for each hypothetical household were calculated by summing the weekly food costs for each household member, based on the individual's age and sex, adjusting total weekly costs for economies (or diseconomies) of family size, and finally converting the weekly estimate to a monthly cost (Ontario Ministry of Health, 1998). The financial contributions of prenatal and child nutrition program participation were estimated in relation to total household costs, as described below.

### **Estimation of Potential Financial Contribution of Canada Prenatal Nutrition Program Funded Projects to Household Food Costs**

Participants in CPNP-funded projects in Toronto attend the programs once per week and typically receive food supplements, food vouchers, nutrition counselling, breast-feeding information and support, health and lifestyle counselling, social support, and referrals to other community services (Health Canada, 2001). Only the food supplements and vouchers were considered to contribute to individual participants' food needs and household food costs. The food supplement received is typically a snack that is prepared and consumed on the day the program operates (personal communication, Toronto South Coalition of Perinatal Nutrition and Support Programs, June 13, 2001). All CPNP-funded projects in Toronto offer food vouchers at a value of \$5 or, more commonly, \$10 per week, although women must be in attendance to receive the voucher (personal communication, Toronto South Coalition of Perinatal Nutrition and Support Programs, June 13, 2001).

In estimating the financial contribution of program participation, the snack was assumed to meet 1/3 of a participant's daily food needs one day per week (1/7). Assuming weekly attendance, the snack was estimated to contribute 4/84 of the monthly food costs for the pregnant woman as determined from the Nutritious Food Basket costing (Ontario Ministry of Health, 1998). The potential contribution of the food vouchers, assuming one was received each week, was simply the dollar value of the food vouchers multiplied by 4.33 (the average number of weeks/month). The total contribution of the program to monthly household food costs was the sum of the estimated financial contribution of the food supplement and food vouchers. Two values are presented, reflecting the possibility that participants receive either a \$5 or \$10 voucher weekly. This analysis was conducted for two hypothetical households: i) a single pregnant woman (first trimester), age 37 years; and ii) a two-parent household, with a man and a pregnant woman (first trimester), both 37 years old, and a three-year-old boy.

### **Estimation of Potential Financial Contribution of Child Nutrition Programs to Household Food Costs**

Child nutrition Programs in Toronto typically offer breakfast, lunch or a snack, but it is rare that any one program offers more than one meal/day (Food and Hunger Action Committee, 2000). Further, although some programs operate in community sites year round, 90 per cent are in school settings (Basrur 1998 ), available only to children of elementary school age and operating only during the school year (Food and Hunger Action Committee, 2000). In estimating the potential contribution of child nutrition programs to participants' food needs and household food costs, it was thus assumed that a child would participate, at most, in one program per day, for five days per week (i.e., school days). In Toronto in 1999, a breakfast or snack program was recommended to include a minimum of three servings of food from different food groups in Canada's Food Guide to Healthy Eating (Health and Welfare Canada and Ontario Ministry of Health 1993 ), while a lunch program was recommended to include a minimum of four servings (Toronto Public Health, 1999).

According to Canada's Food Guide to Healthy Eating, the recommended minimum number of total daily food group servings for children ages four to nine years is 14 servings/day and for children ages 10-16 years is 15 servings/day (Health and Welfare Canada and Ontario Ministry of Health, 1993 ). To estimate the potential contribution of program participation, the food servings in a breakfast, snack, or lunch program meal were first expressed as ratios of the minimum number of food group servings/day recommended for each participating child according to Canada's Food Guide to Healthy Eating. These ratios represent the maximum proportion of daily food group servings that each program meal would supply for the child. The potential contribution of a child's participation on the household's monthly food costs was calculated by multiplying each ratio by 5/7, and multiplying this product by the monthly food costs for the child as determined from the Nutritious Food Basket (Ontario Ministry of Health, 1998).

This analysis was conducted for two households: 1) a single-parent woman, age 37, with a three-year-old girl and six-year old boy; and 2) a two-parent household, with a man and woman, both 37 years old, a girl, eight years, and a boy, 13 years. In the second household, both children were assumed to participate in programs. Because the potential financial contributions of breakfast and snack programs are less than for lunch programs, both kinds of programs were assessed.

### **Estimation of the Monthly Funds Remaining After Expenses**

To estimate the capacity of prenatal and child nutrition programs to offset the financial hardship faced by households supported by Ontario Works, the financial

contributions of the programs were examined in relation to households' estimated monthly incomes and expenses (Vozoris et al., 2002). The monthly funds remaining after expenses for each of the four households constructed were estimated by calculating the monthly costs in 1999 for food, shelter, and other expenses considered essential for a basic standard of living, and comparing these costs to average monthly incomes received on Ontario Works. The calculation of monthly incomes and expenses is described in detail elsewhere (Vozoris, Davis & Tarasuk, 2002).

Briefly, income was estimated to include the monthly basic allowance and shelter allowance available to households on Ontario Works, plus the winter clothing allowance, the Canada Child Tax Benefit, federal Goods and Services Tax credit, and Ontario provincial government property and sales tax credits. Only household expenses judged necessary for a basic standard of living were considered here. These included direct estimates of Toronto costs for food estimated from the Nutritious Food Basket (Ontario Ministry of Health, 1998), shelter, assuming rents ten per cent below average market rents for comparable units (Canada Mortgage and Housing Corporation, 1999), basic telephone service, and minimal use of public transportation. In addition, costs for clothing, personal hygiene supplies, household cleaning and maintenance supplies, home furnishings and equipment were approximated from the average expenditures of households in the lowest income quintile in the 1996 Family Expenditure Survey (Statistics Canada, 1998), adjusted for inflation between 1996 and 1999 (Statistics Canada, 2000).

#### **The Potential Contribution of Participation in CPNP-Funded Prenatal Programs**

Assuming the snacks offered were sufficient to satisfy one-third of pregnant women's daily food needs, they comprised approximately five per cent of the women's food needs in a month. For women living alone, the snacks and vouchers together represent 21.2 per cent or 37.6 per cent of estimated total monthly food needs based on cost (depending on whether a \$5 or \$10 food voucher was provided weekly). This is depicted by the case of the single pregnant women in Table I. These program components represent 8.3 per cent or 14.9 per cent of the monthly household food costs for the two-parent household with the three-year-old boy.

Our comparison of estimated monthly incomes and expenses indicated that neither of the two hypothetical households including a pregnant woman had incomes on Ontario Works that were sufficient to meet the estimated costs of their basic living expenses (Table I). The financial benefits of CPNP participation were insufficient to compensate for these deficits (Table I).

### **The Potential Contribution of Participation in Child Nutrition Programs**

Assuming that children's food needs are reflected in the minimum number of servings recommended by Canada's Food Guide, that the programs are offered every school-day and there are no school holidays, and that children have perfect attendance, children in breakfast or snack programs would receive 14-15 per cent of their estimated food needs per school month. Children attending lunch programs would obtain 19-20 per cent of their needs per school month.

Although the income of the single-parent household considered here was sufficient to meet estimated basic needs, the two-parent household's income fell well below estimated expenses (Table II), reflecting the differences in welfare incomes by household type. In either case, participation in child nutrition programs made little financial contribution to household circumstances. Depending on whether children participated in a breakfast or snack program or a lunch program, the financial contribution of a school child nutrition program represented 4.9 per cent or 6.5 per cent of the monthly household food costs each school month for the single-parent household, and 6.9 per cent or 9.3 per cent of the monthly household food costs each school month for the two-parent family with the eight-year-old girl and 13-year-old boy.

### **Discussion**

Although the household members who attend nutrition support programs reap the benefits of whatever snacks or meals they consume in the programs, our calculations illustrate that this food represents only a small fraction of the individuals' food needs over the course of a month or year. Given the relatively small contribution of prenatal and child nutrition programs to households' overall financial situations, the programs are unlikely to alleviate household food insecurity rooted in income inadequacy. While this is not their goal, the limited contribution these programs make to household circumstances must constrain their capacity to impact individual participants' nutritional health and well-being (which clearly is a goal of CPNP, if not the school nutrition programs).

The estimates of income and expenses that form the basis of our comparisons are admittedly crude. Our scenarios are hypothetical, and the judgements underpinning our estimates of what expenditures are required to achieve a "basic" standard of living are open to debate (Vozoris et al., 2002). Our estimates of program contributions represent "best case" scenarios insofar as we assume perfect attendance. We also assume child nutrition programs are offered daily throughout the school year, but many programs fall short of this goal (Basrur, 1998). During months of the years when there is no school, the contribution of child nutrition programs would be nil. In addition, we assume children participate in child

**Table I**

Potential financial impact of Canada Prenatal Nutrition Program funded projects on the monthly funds remaining after expenses for two household types supported by Ontario Works (welfare) in Toronto in 1999

	<b>One-parent household<sup>a</sup></b>	<b>Two-parent<sup>b</sup></b>
<b>Monthly income</b>		
Basic allowance	\$195.00	\$410.58
Shelter allowance	\$325.00	\$554.00
Winter clothing allowance	\$0	\$ 8.75
Canada Child Tax Benefit	\$0	\$168.17
Federal GST benefit	\$ 16.58	\$ 41.92
Ontario tax credits	\$ 36.70	\$ 45.50
<b>Total</b>	<b>\$573.28</b>	<b>\$1,228.92</b>
<b>Selected monthly expenses</b>		
Food	\$131.71	\$328.12
Shelter	\$563.40	\$831.60
Telephone	\$ 25.36	\$ 25.36
Transportation	\$ 14.72	\$ 29.44
Other expenses	\$ 93.55	\$248.19
<b>Total</b>	<b>\$828.74</b>	<b>\$1,462.71</b>
<b>Monthly funds remaining</b>	<b>-\$255.46</b>	<b>-\$233.79</b>
<b>Estimated financial potential of Canada Prenatal Nutrition Program funded projects<sup>c</sup></b>		
	<b>\$ 27.92</b>	<b>\$ 27.38</b>
	<b>or \$ 49.57</b>	<b>or \$ 49.03</b>
<b>Monthly funds remaining assuming participation in a Canada Prenatal Nutrition Program funded project</b>		
	<b>-\$227.54</b>	<b>-\$206.41</b>
	<b>or -\$205.89</b>	<b>or -\$184.76</b>

<sup>a</sup>Household composed of a single pregnant woman (first trimester), age 37 years.

<sup>b</sup>Household composed of a man and a pregnant woman (first trimester), both age 37 years, and a three-year-old boy.

<sup>c</sup>The slight discrepancy between the two households arises because the value of the snack received was estimated as a function of total food costs. The food costs of the woman in the single-person household are higher than the food costs for the woman in the two-parent household, because of the economies of scale.

nutrition programs without charge. If parents make monetary contributions as they are asked to do, if possible, through a voluntary and anonymous collection system in most Toronto programs (Toronto Public Health, 1999), the program's impact on monthly household food costs will be even less. Moreover, since 1999, the nutrition standards for lunch and snack programs in Toronto have been lowered (Toronto Public Health, 2000), so their potential impact now is less than depicted in Table II.

The income-expense comparisons upon which this study is based relate to a specific time (1999) and location (Toronto). Given regional and temporal variations in welfare benefit levels and costs of living, the estimates of potential contributions of CPNP and child nutrition programs to total household food needs cannot be generalized to other settings. However, the inadequacies of welfare benefit levels have been documented across jurisdictions (Emes & Kreptul, 1999), the heightened vulnerability of welfare recipients to food insecurity exists at a national level (Che & Chen, 2001; McIntyre et al., 2000; Vozoris & Tarasuk, 2003), and the prenatal and child nutrition programs considered here are similar to those offered elsewhere in the country (Hay, 2000; Health Canada, 2001; Hyndman, 2000; Papamandjaris, 2000). Thus it is unlikely that markedly different conclusions about the potential for such targeted programs to offset problems of food insecurity rooted in income inadequacy would be reached if the present study were to be repeated in another part of Canada.

In addition to their limited material benefits, it should be noted that prenatal and child nutrition programs have limited coverage. Like other community food security programs that have emerged over the last 10-15 years in Canada, these program benefits are not matters of entitlement (Tarasuk & Davis, 1996). Child nutrition programs reached only 15 per cent of elementary school-aged children in Toronto in 1998 (City of Toronto, 1999). We were unable to ascertain what proportion of the 10,000 low-income women who become pregnant each year in Toronto (Food and Hunger Action Committee, 2000) participate in CPNP funded programs.

The targeting of program benefits to specific individuals within low-income households is problematic because it ignores the well-documented interrelationship between individuals' nutrition and their household circumstances (Cristofar & Basiotis, 1992; Kendall, Olson & Frongillo, 1996; McIntyre, Raine, Glanville & Dayle, 2001b; Rose, 1999; Rose & Oliveira, 1997; Tarasuk & Beaton, 1999b). For prenatal program participants who live with others, the food vouchers they receive will be allocated within a household context. The results of several studies indicate that, in the context of severe resource constraints, women living with children deprive themselves of food to spare their children food deprivation (Ahluwalia, Dodds & Baligh, 1998; Badun et al., 1995; Campbell & Desjardins, 1989; Cristofar & Basiotis, 1992; Dowler and Calvert, 1995; Hamelin, Habicht & Beaudry, 1999;

**Table II**

Potential financial impact of child nutrition programs per school month on the monthly funds remaining after expenses for two household types supported by Ontario Works (welfare) in Toronto in 1999

	<b>Single-parent household<sup>a</sup></b>	<b>Two-parent household<sup>b</sup></b>
<b>Monthly income</b>		
Basic allowance		
Shelter allowance	\$ 417.83	\$ 497.83
Winter clothing allowance	\$ 554.00	\$ 602.00
Canada Child Tax Benefit	\$ 17.50	\$ 17.50
Federal GST benefit	\$ 319.67	\$ 284.17
Ontario tax credits	\$ 50.38	\$ 50.67
<b>Total</b>	<b>\$ 41.01</b>	<b>\$ 49.94</b>
	<b>\$1,400.39</b>	<b>\$1,502.11</b>
<b>Selected monthly expenses</b>		
Food		
Shelter	\$ 247.78	\$ 462.44
Telephone	\$ 831.60	\$ 989.10
Transportation	\$ 25.36	\$ 25.36
Other expenses	\$ 14.72	\$ 29.44
<b>Total</b>	<b>\$ 248.19</b>	<b>\$ 248.19</b>
	<b>\$1,367.65</b>	<b>\$1,754.53</b>
<b>Monthly funds remaining</b>	<b>\$ 32.74</b>	<b>-\$ 252.42</b>
<b>Estimated financial potential of a child nutrition program</b>		
	<b>\$ 12.12</b>	<b>\$ 32.12</b>
	<b>or \$ 16.16</b>	<b>or \$ 42.84</b>
<b>Monthly funds remaining assuming participation in a child nutrition program</b>		
	<b>\$ 44.86</b>	<b>-\$ 220.30</b>
	<b>or \$ 48.90</b>	<b>or -\$ 209.58</b>

<sup>a</sup>Household composed of a single-parent woman, age 37, with a three-year-old girl and a six-year-old boy.

<sup>b</sup>Household composed of a man and a woman, both age 37, and an eight-year-old girl and a 13-year-old boy.

Hamelin et al., 2001; McIntyre et al., 2001b; Rose, 1999; Tarasuk & Maclean, 1990b; Wehler, Scott & Anderson, 1992). These findings suggest that prenatal program participants who are members of low-income, food insecure families are unlikely to be the sole - or even the primary - beneficiary of the food vouchers.

The financial investments of provincial and federal governments in prenatal and child nutrition programs are trivial in comparison to the cuts that have been made to welfare budgets in recent years. For example, the Ontario government currently contributes \$4.5 million annually to "Ontario Breakfast for Learning" (Canadian Living Foundation, 2000), and this funding does not cover program costs.<sup>2</sup> The program was announced on the heels of a 21.6 per cent cut in welfare incomes for recipients not classed as disabled, an initiative which resulted in \$465 million in savings for the provincial government in 1995-96 alone (National Council of Welfare, 1997). At the same time, cuts were made to a number of other programs that provided supports for the poor and unemployed in this province, including a \$43.5 million cut to social service agency grants (National Council of Welfare, 1997). Given the relatively small investment in child nutrition programs, it is perhaps not surprising that their potential contributions to participants' total food needs or household food security are limited.

One argument for the provision of food rather than income supplements is that the former approach ensures that the funds allocated affect nutrition, whereas if cash were given, there is no guarantee that it would be spent on nutritious food. The funding of child nutrition programs from the clawback of the National Child Benefit Supplement from welfare recipients in the Yukon (Government of Yukon 1998) and Ontario (Government of Ontario 2001) would appear to be a particularly blatant acknowledgement of this position. The provision of meal programs in lieu of income supplements is problematic for several reasons. Such approaches give unwarranted primacy to food needs over the multitude of other unmet needs of those too poor to feed themselves (Tarasuk, 2001b). Furthermore, the targeting of food assistance to particular subgroups (i.e., elementary school children and pregnant women) ignores the unmet food needs of older children, adolescents, non-pregnant women, and men in similarly impoverished circumstances. Even if these concerns are discounted, the foregoing analysis highlights the small contribution such programs make to their participants' overall food needs.

After almost two decades of community groups struggling to respond to problems of food insecurity through ad hoc, largely voluntary initiatives, the current involvement of federal, provincial, and territorial governments in the funding of programs designed, in part at least, to address the unmet food needs of some vulnerable groups might be seen as an important step forward. However, our findings underscore the small contributions of prenatal and child nutrition programs to participants' overall food needs and the limited potential of such programs to impact household food security. It could be argued that this criticism is misplaced

**Appendix 1**

Weekly cost of the Ontario Nutritious Food Basket in Toronto  
(May, 1999) for selected age groups\*

<b>Sex</b>	<b>Age (years)</b>	<b>Cost per week (\$)</b>
<b>Male or female</b>	1	\$ 12.66
	2-3	\$ 13.25
	4-6	\$ 17.42
<b>Male</b>	7-9	\$ 20.77
	10-12	\$ 25.90
	13-15	\$ 30.38
	16-18	\$ 35.25
<b>Femal</b>	7-9	\$ 20.12
	10-12	\$ 24.01
	13-15	\$ 25.61
	16-18	\$ 24.36
<b>Male</b>	19-24	\$ 33.43
	25-49	\$ 32.47
<b>Femal</b>	19-24	\$ 24.94
	(not pregnant) 25-49	\$ 23.83
	(pregnant/1 <sup>st</sup> ) 25-49	\$ 26.45

\*Adapted from: Basrur, S. 1999. Cost of Healthy Eating in Toronto. Toronto, Ontario: Toronto Board of Health.

because the programs are designed to address objectives other than food security, but their success in achieving these will surely be hampered if program participants are locked in daily struggles to meet their food needs. More effective policy responses to household food insecurity in Canada are badly needed. Such responses must recognize that this problem is not restricted to particular age or gender subgroups but affects everyone who lacks the means to obtain sufficient food. Furthermore, it is imperative that policies to address food insecurity recognize both the inextricable link between income inadequacy and food insecurity and the relationship between individuals' nutrition and their household circumstances. Targeted feeding programs cannot substitute for adequate income support programs.

*The authors are indebted to Barbara Davis for her insightful comments on earlier drafts of this manuscript.*

*Nicholas Vozoris is a graduate of the University of Toronto's MHSc program in Community Nutrition, and is currently a third-year student at the university's medical school.*

*Valerie Tarasuk is an Associate Professor in the Department of Nutritional Sciences at the University of Toronto.*

#### Notes

1. Food insecurity can be defined as limited or uncertain availability of nutritionally adequate and safe foods, or limited or uncertain ability to acquire acceptable foods in socially acceptable ways (Anderson, 1990). In the context of affluent western societies where safe, nutritious food is in abundance, household food insecurity is generally regarded as a problem of access, rooted in income inadequacy.
2. In 1998, the child nutrition programs in Toronto were funded in a shared partnership model: 24 per cent from the provincial government, 24 per cent from the municipal government, 18 per cent from corporate and local fundraising activities, and 38 per cent from parents (Toronto Community Partners for Child Nutrition, 1998).

#### References

- Agriculture and Agri-Food Canada. (1998). *Canada's action plan for food security: A response to the world food summit*. Ottawa: Agriculture and Agri-Food Canada.
- Ahluwalia, I. B., Dodds, J. M., & Baligh, M. (1998). Social support and coping behaviors of low-income families experiencing food insufficiency in North Carolina. *Health Education & Behavior, 25* (5), 599-612.

- Anderson, S. A. (1990). Core indicators of nutritional state for difficult-to-sample populations. *Journal of Nutrition*, 120, (11S), 1559-1600.
- Antoniades, M. & Tarasuk, V. (1998). "A survey of food problems experienced by Toronto street youth," *Canadian Journal of Public Health*, 89, (6), 371-375.
- Badun, C., Evers, S., & Hooper, M. (1995). Food security and nutritional concerns of parents in an economically disadvantaged community. *Journal of the Canadian Dietetic Association*, 56 (2), 75-80.
- Basrur, S. (1998). *Child nutrition programs in Toronto. Report to the Toronto Board of Health*. Toronto : Toronto Board of Health.
- Basrur, S. (1999). *Cost of healthy eating in Toronto*. Toronto: Toronto Board of Health.
- Battle, K. (1997). Transformations: Canadian social policy since 1985. Paper presented at American Sociological Association, Toronto, Ontario, Canada.
- British Columbia Ministry of Education and Ministry Responsible for Multiculturalism and Human Rights. (1994). *Food for thought: Evaluation of the school meal program in British Columbia*. Victoria BC: Province of British Columbia.
- Brown, R. S. (1993). *An evaluation of the pilot joint school food programs in the Toronto Board of Education*. Toronto: Toronto Board of Education.
- Campbell, C. C. (1991). Food security from the consumer's perspective: an agenda for the 1990s. *Journal of the Canadian Dietetic Association*, 52, (2), 83-88.
- Campbell, C. C. & Desjardins, E. (1989). A model and research approach for studying the management of limited food resources by low-income families. *Journal of Nutrition Education*, 21, (4), 162-171.
- Canada Mortgage and Housing Corporation. (1999). *Rental market report 1999 Toronto CMA*. Toronto : Canada Mortgage and Housing Corporation.
- Canadian Educational Association. (1989). *Food for thought: School board nutrition policies and programs for hungry children*. Toronto: Canadian Education Association.
- Canadian Living Foundation. (2000). *Breakfast for learning energized by Ontario's budget's commitment to children's nutrition*. Online: <http://breakfast4learning.com/reports/OntarioBudgetrelease.htm>
- Che, J. & Chen, J. (2001). Food insecurity in Canadian households. *Health Reports*, 12, (4), 11-22.
- City of Toronto. (1999). *Toronto report card on children 1999*. Toronto: City of Toronto.
- Cristofar, S. P. & Basiotis, P. P. (1992). Dietary intakes and selected characteristics of women ages 19-50 years and their children ages 1-5 years by reported perception of food sufficiency. *Journal of Nutrition Education*, 24, (2), 53-58.
- Dachner, N. & Tarasuk, V. (2002). Homeless "squeegee kids": Food insecurity and daily survival. *Social Science & Medicine*, 54, 1039-1049.
- Davis, B., Katamay, S., Desjardins, E., Sterken, E., & Patillo, M. (1991). Nutrition and food security: A role for the Canadian Dietetic Association. *Journal of the Canadian Dietetic Association*, 52, (3), 141-145.
- Davis, B. & Tarasuk, V. (1994). Hunger in Canada. *Agriculture and Human Values*, 11, (4), 50-57.
- Dayle, J. B., McIntyre, L., & Raine-Travers, K. D. (2000). The dragnet of children's feeding programs in Atlantic Canada. *Social Science & Medicine*, 51, 1783-1793.

- Dowler, E. & Calvert, C. (1995). *Nutrition and diet in lone-parent families in London*. London: Family Policy Studies Centre.
- Emes, J. & Kreptul, A. (1999). *The adequacy of welfare benefits in Canada*. Ottawa: The Fraser Institute. Online: [www.fraserinstitute.ca/publications/](http://www.fraserinstitute.ca/publications/)
- Federation of Canadian Municipalities. (2000). *Toward a national housing strategy: A working paper prepared for the FCM Big City Mayors Caucus*. Ottawa: Federation of Canadian Municipalities.
- Food and Hunger Action Committee. (2000). *Planting the seeds: Food and Hunger Action Committee Phase 1 Report*. Toronto: City of Toronto.
- Government of Newfoundland & Labrador. (2000). *Funding for school meal programs*. Online: <http://www.gov.nf.ca/releases/2000/edu/032n16.htm>
- Government of New Brunswick. (2002). *What is the national child benefit?* Online: <http://www.nb.ca/Fsc-sfc/whatnbc.htm>
- Government of Ontario. (1996). *On the "Ontario Breakfast for Learning," statement to the legislature by The Honorable Michael D. Harris, Premier of Ontario*. Online: <http://premier.gov.on.ca/English/speeches/archive/breakfst.eng.htm>
- Government of Ontario, Ministry of Community and Social Services. (2001). *National Child Benefit Reinvestment, Second Annual Ontario/Municipal Report*. Online: <http://www.gov.on.ca/CSS/page/brochure/ncbreport2000.html>
- Government of Saskatchewan. (2000). *Budget address March 29, 2000, plan for growth and opportunity, The Honourable Eric Cline of Finance, Province of Saskatchewan*. Online: <http://www.gov.sk.ca/finance/budget/budget00/2000budget.htm>
- Government of Yukon. (1998). *YTG fighting child poverty with savings from national program*. Online: [http://www.gov.yk.ca/wwwdata/news/1998/jun\\_per cent2D98/109.htm](http://www.gov.yk.ca/wwwdata/news/1998/jun_per cent2D98/109.htm)
- Griffin Cohen, M. (1997). From the welfare state to vampire capitalism. In P. M. Evans & G. R. Wekerle (Eds.). *Women and the Canadian welfare state* (pp. 29-67). Toronto: University of Toronto Press.
- Hamelin, A. M., Beaudry, M., & Habicht, J.-P. (2001). Characterization of household food insecurity in Quebec: food and feelings. *Social Science & Medicine*, 54, 119-132.
- Hamelin, A. M., Habicht, J. P., & Beaudry, M. (1999). Food insecurity: Consequences for the household and broader social implications. *Journal of Nutrition*, 129, 525S-528S.
- Hay, D. I. (2000). *School-based feeding programs: A good choice for children?* Victoria, BC: Information Partnership.
- Health and Welfare Canada and Ontario Ministry of Health. (1993). *Canada's food guide to healthy eating*. Toronto: Queen's Printer for Ontario.
- Health Canada. (2001). *Canada prenatal nutrition program*. Online: <http://hc-sc.gc.ca/hppb/childhood-youth/cbp/cpnp>
- Health Canada, Medical Services Branch. (1995). *The Canada prenatal nutrition program, First Nations and Inuit component: Program guide*. Ottawa: Health Canada.
- Hobbs, K., MacEachern, W., McIvor, A., & Turner, S. (1993). Waste of a nation: Poor people speak out about charity. *Canadian Review of Social Policy*, 31, 94-104.
- Hyndman, B. (2000). *Feeding the body, feeding the mind: An overview of school-based nutrition programs in Canada*. online: <http://breakfast4learning.com/reports/litreview.htm>
- Jacobs Starkey, L., Kuhnlein, H., & Gray-Donald, K. (1998). "Food bank users:

- Sociodemographic and nutritional characteristics. *Canadian Medical Association Journal*, 158, (9), 1143-1149.
- Joint Steering Committee. (1996). *Nutrition for health: An agenda for action*. Ottawa: Kalina, L. (1993). *Building food security in Canada: A community resource for action on hunger*. Kamloops, BC: Kamloops FoodShare.
- Kendall, A., Olson, C. M., & Frongillo, E. A. (1996). Relationship of hunger and food insecurity to food availability and consumption. *Journal of the American Dietetic Association*, 96, 1019-1024.
- McIntyre, L., Connor, S. K., & Warren, J. (2000). Child hunger in Canada: Results of the 1994 national longitudinal survey of children and youth. *Canadian Medical Association Journal*, 163, (8), 961-965.
- McIntyre, L., Glanville, T., Officer, S., Anderson, B., Raine, K. D. & Dayle, J. B. (2002). Food insecurity of low-income lone mothers and their children in Atlantic Canada. *Canadian Journal of Public Health*, 93, 411-415.
- McIntyre, L., Raine, K., & Dayle, J. B. (2001 a). The institutionalization of children's feeding programs in Atlantic Canada. *Canadian Journal of Dietetic Practice and Research*, 62, (2), 53-57.
- McIntyre, L., Raine, K., Glanville, T., & Dayle, J. B. (2001b). *Hungry mothers of barely fed children: A Study of the diets and food experiences of low-income lone mothers in Atlantic Canada*. Halifax: NHRDP No. 6603-1550-002.
- McIntyre, L., Travers, K., & Dayle, J. B. (1999). Children's feeding programs in Atlantic Canada: reducing or reproducing inequities? *Canadian Journal of Public Health*, 90, (3), 196-200.
- McIntyre, L. & Dayle, J. B. (1992). Exploratory analysis of children's nutrition programs in Canada. *Social Science and Medicine*, 35, (9), 1123-1129.
- National Council of Welfare. (1997). *Another look at welfare reform*. Ottawa: Minister of Public Works and Government Services Canada. H68-43/1997E.
- National Council of Welfare. (1999). *Poverty profile 1997*. Ottawa: Minister of Public Works and Government Services Canada.
- National Council of Welfare. (2000). *Welfare incomes 1997 and 1998*. Ottawa: Minister of Public Works and Government Services Canada.
- National Council of Welfare. (2002). *Welfare incomes 2000 and 2001*. Ottawa: Minister of Public Works and Government Services Canada.
- Ontario Association of Food Banks. (2000). *Preliminary results: Hunger count 2000*. Toronto: Ontario Association of Food Banks.
- Ontario Ministry of Health, Public Health Branch. (1998). *Monitoring the cost of a nutritious food basket protocol*. Toronto: Ministry of Health.
- Papamandjaris, A. (2000). *Breakfast and learning in children: A review of the effects of breakfast on scholastic performance*. Online: <http://breakfast4learning.com/papereport.htm>.
- Riches, G. (1986). *Food banks and the welfare crisis*. Ottawa: Canadian Council on Social Development.
- Riches, G. (1989). Responding to hunger in a wealthy society: issues and options. *Journal of the Canadian Dietetic Association*, 50, (3), 150-154.
- Riches, G. (1997). Hunger in Canada: abandoning the right to food. In G. Riches (Ed.). *First*

- World Hunger, Food Security and Welfare Politics* (pp. 46-77). London: Macmillan Press Ltd.
- Riches, G. (2002). Food banks and food security: welfare reform, human rights and social policy. Lessons from Canada? *Social Policy & Administration*, 36, 648-663.
- Rose, D. (1999). Economic determinants and dietary consequences of food insecurity in the United States. *Journal of Nutrition*, 129, 517S-520S.
- Rose, D. & Oliveira, V. (1997). Nutrient intakes of individuals from food-insufficient households in the United States. *American Journal of Public Health*, 87, 12, 1956-1961.
- Scientific Review Committee. (1990). *Nutrition recommendations*. Ottawa: Health Canada.
- Statistics Canada. (1998). *Family expenditure survey 1996*. Ottawa: Ministry of Industry.
- Statistics Canada. (2000). *The consumer price index, December 1999*. Ottawa: Ministry of Industry.
- Tarasuk, V. (2001a). A critical examination of community-based responses to food insecurity in Canada. *Health Education & Behavior*, 28, (4), 487-499.
- Tarasuk, V. (2001b). Household food insecurity with hunger is associated with women's food intakes, health, and household circumstances. *Journal of Nutrition*, 131, 2670-2676.
- Tarasuk, V. S. & Beaton, G. H. (1999a). Household food insecurity and hunger among families using food banks. *Canadian Journal of Public Health*, 90, (2), 109-113.
- Tarasuk, V. S. & Beaton, G. H. (1999b). Women's dietary intakes in the context of household food insecurity. *Journal of Nutrition*, 129, 672-679.
- Tarasuk, V. & Davis, B. (1996). Responses to food insecurity in the changing Canadian welfare state. *Journal of Nutrition Education*, 28, (2), 71-75.
- Tarasuk, V. S. & Maclean, H. (1990a). The institutionalization of food banks in Canada: A public health concern. *Canadian Journal of Public Health*, 81, 331-332.
- Tarasuk, V. & Maclean, H. (1990b). The food problems of low-income single mothers: An ethnographic study. *Canadian Home Economics Journal*, 40, (2), 76-82.
- Toronto Community Partners for Child Nutrition. (1998). *Child nutrition programs in the new city of Toronto*. Toronto: Toronto Board of Health.
- Toronto Public Health. (1999). *Child nutrition program funding 1999/2000—Program criteria*. Toronto: Toronto Public Health.
- Toronto Public Health. (2000). *Child nutrition program funding 2000/2001*. Toronto: Toronto Public Health.
- Vozoris, N., Davis, B., Tarasuk, V. (2002). The affordability of a nutritious diet for households on welfare in Toronto. *Canadian Journal of Public Health*, 93, 36-40.
- Vozoris, N. & Tarasuk, V. (2003). Household food insufficiency is associated with poorer health. *Journal of Nutrition*, 130, 120-126.
- Wehler, C. A., Scott, R. I., & Anderson, J. J. (1992). The community childhood hunger identification project: a model of domestic hunger—Demonstration project in Seattle, Washington. *Journal of Nutrition Education*, 24, (1), 29S-35S.
- Wekerle, G. R. (1997). The shift to the market: gender and housing disadvantage. In P. M. Evans & G. R. Wekerle (Eds.). *Women and the Canadian Welfare State* (pp. 170-194). Toronto: University of Toronto Press.
- Wilson, B. (1999). *Hunger count 1999*. Toronto: Canadian Association of Food Banks.