Is the minimum enough? Affordability of a nutritious diet for minimum wage earners in Nova Scotia (2002-2012)

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ABSTRACT

OBJECTIVE: This paper aims to assess the affordability of a nutritious diet for households earning minimum wage in Nova Scotia (NS) from 2002 to 2012 using an economic simulation that includes food costing and secondary data.

METHODS: The cost of the National Nutritious Food Basket (NNFB) was assessed with a stratified, random sample of grocery stores in NS during six time periods: 2002, 2004/2005, 2007, 2008, 2010 and 2012. The NNFB's cost was factored into affordability scenarios for three different household types relying on minimum wage earnings: a household of four; a lone mother with three children; and a lone man. Essential monthly living expenses were deducted from monthly net incomes using methods that were standardized from 2002 to 2012 to determine whether adequate funds remained to purchase a basic nutritious diet across the six time periods.

RESULTS: A 79% increase to the minimum wage in NS has resulted in a decrease in the potential deficit faced by each household scenario in the period examined. However, the household of four and the lone mother with three children would still face monthly deficits (\$44.89 and \$496.77, respectively, in 2012) if they were to purchase a nutritiously sufficient diet.

CONCLUSION: As a social determinant of health, risk of food insecurity is a critical public health issue for low wage earners. While it is essential to increase the minimum wage in the short term, adequately addressing income adequacy in NS and elsewhere requires a shift in thinking from a focus on minimum wage towards more comprehensive policies ensuring an adequate livable income for everyone.

KEY WORDS: Nutrition policy; minimum wage; family finance; low-income population; food security; food insecurity; poverty; social policy; income inequalities; food costing

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

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Food insecurity is "the inability to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways, or the uncertainty that one will be able to do so."¹ It is a social determinant of health^{2,3} and a serious public health problem with negative and long-lasting impacts on health and well-being.³⁻⁷ Food insecurity represents deprivation in terms of access to enough nutritious food to maintain good health, increasing risk of dietary inadequacy,⁵ psychosocial problems⁴ and chronic health conditions such as diabetes and heart disease.^{6,7}

At least 1.7 million households in Canada (12.5%) experienced some level of food insecurity due to financial constraints in 2012, a significant increase since 2008.⁸ Since 2005, when household food insecurity started to be monitored on a consistent basis in Canada, Nova Scotia (NS) has reported some of the highest rates of all Canadian provinces, with 17.5% of all households reporting some level of food insecurity in 2012.⁸ Although many factors may contribute to household food insecurity, including lack of transportation, food knowledge and skills, and social supports,^{3,9} income remains the most significant determinant of food access and hunger in Canada.³ In 2012, 45.3% of Canadian households with incomes under half the low income measure* were food insecure.⁸

* The low income measure is 50% of median household income, adjusted for household size, and is commonly used in Canada for estimating levels of poverty and for making international comparisons.⁹

Previously, we examined the adequacy of minimum wage in NS using food costing data from 2002 projecting forward to 2006 and found that individuals working for minimum wage in NS were likely unable to afford a nutritious diet assuming their other essential needs were met.¹⁰ As a result of recommendations by a Minimum Wage Review Committee, the NS government has steadily increased the minimum wage, with the most recent increase to \$10.40/hr in April 2014. It is not clear whether these increases, along with the introduction of the Working Income Tax Benefit¹¹ and Affordable Living Tax Credit,¹² which were initiated in 2007 and 2010, respectively, have improved the

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Figure 1. Potential monthly financial gap in funds remaining for additional expenses after purchasing a basic nutritious diet for selected household scenarios between 2002 and 2012

ability of households reliant on minimum wage earnings to meet their basic needs including a nutritious diet. However, rates of food insecurity among households whose main source of income was wages and salaries was 11.2%, representing 62.2% and 65% of food-insecure households in Canada and NS, respectively.⁸ With a 79% increase in the minimum wage in NS between 2002 and 2012, along with an increase in the proportion of Nova Scotians working for minimum wage between 2000 and 2009, the third highest (6.8%) of all the provinces,¹³ there is a need to examine the affordability of a nutritious diet for minimum wage earners in NS. The aim of this paper was to estimate the financial gap that remains for selected hypothetical household scenarios earning minimum wage from 2002 to 2012 in NS by contrasting estimated monthly incomes against basic, essential monthly expenses using various secondary data sources, including the cost of a basic nutritious food basket.

METHODS

To assess the affordability of a nutritious diet for households earning minimum wage in NS from 2002 to 2012, we used an economic simulation that includes food costing and secondary data. Scenarios were created representing three households that

may be relying on minimum wage earnings in NS: a household of four; a lone mother with three children; and a lone man. These household types were selected based on evidence that most minimum wage earners are below 25 years of age, women are over-represented in the group of sole family earners,¹⁴ and just under half of children living in poverty have at least one full-time wage earner in the household.¹⁵ Consistent with published food costing research,^{10,16,17} estimated monthly costs for shelter, power, child care and other expenses were subtracted from estimated monthly after-tax income including wages, GST credits and child tax benefits, to determine what funds, if any, were left to purchase the National Nutritious Food Basket (NNFB). Details on data sources and estimates for monthly household expenses can be found in Appendix A.

Data on the cost of the NNFB from the NS Participatory Food Costing Project* collected in 2002, 2004/2005, 2007, 2008, 2010 and 2012 were used to determine the cost of a nutritious diet for each household scenario. The NNFB is a tool developed by Health Canada that has been standardized for food costing and includes

* A partnership between the Food Action Research Centre at Mount Saint Vincent University and the Nova Scotia Food Security Network (see <http://foodarc.ca/food-costing/>).¹⁶

Table 1. Potential monthly financial gap in funds remaining for additional expenses after purchasing a basic nutritious diet for a household of four* with two adults earning minimum wage in Nova Scotia between 2002 and 2012

	Year						
	2002 (min wage one FT, one PT = \$5.80/hr)	2004/2005 (min wage one FT, one PT = \$6.50/hr)	2007 (min wage one FT, one PT = \$7.60/hr)	2008 (min wage one FT, one PT = \$8.10/hr)	2010 (min wage one FT, one PT = \$9.20/hr)	2012 (min wage one FT, one PT = \$10.15/hr)	% Change 2002-2012
Monthly gross income	\$1,506.84	\$1,688.70	\$1,974.48	\$2,104.38	\$2,390.16	\$2,636.97	75%
Federal tax	\$49.65	\$62.13	\$63.90	\$65.81	\$82.30	\$99.02	99%
Provincial tax	\$33.95	\$40.60	\$54.35	\$61.90	\$78.01	\$94.37	178%
CCP	\$43.41	\$54.72	\$68.86	\$75.29	\$89.44	\$101.65	134%
EI	\$33.15	\$33.44	\$35.54	\$36.41	\$41.35	\$48.26	46%
Total payroll deductions	\$160.16	\$190.89	\$222.65	\$239.41	\$291.10	\$343.30	114%
Net income	\$1,346.68	\$1,497.81	\$1,751.83	\$1,864.97	\$2,099.06	\$2,293.67	70%
Canada child tax benefit	\$479.51	\$477.90	\$444.64	\$454.20	\$474.42	\$417.41	-13%
Goods & services tax	\$54.17	\$56.00	\$59.00	\$60.33	\$63.00	\$64.33	19%
NS affordable living tax credit	n/a	n/a	n/a	n/a	n/a	\$23.30	
Disposable income	\$1,880.36	\$2,031.71	\$2,255.47	\$2,379.50	\$2,636.48	\$2,798.71	49%
Basic monthly expenses							
Shelter	\$712.58	\$729.06	\$797.35	\$804.69	\$822.02	\$845.20	19%
Power	\$121.37	\$129.09	\$146.15	\$144.87	\$161.67	\$177.39	46%
Telephone	\$27.72	\$27.79	\$27.69	\$29.02	\$29.60	\$29.91	8%
Transportation (private)	\$317.74	\$391.32	\$425.52	\$403.35	\$464.44	\$478.34	51%
Child care	\$126.08	\$130.33	\$139.81	\$148.48	\$154.57	\$175.37	39%
Clothing, footwear, etc.	\$153.79	\$150.98	\$201.97	\$171.17	\$184.26	\$191.00	24%
Personal care expenses	\$65.98	\$83.70	\$99.20	\$97.04	\$70.01	\$73.03	11%
Household cleaning supplies	\$28.88	\$31.69	\$33.53	\$31.31	\$22.13	\$22.77	-21%
Total basic expenses	\$1,554.14	\$1,673.96	\$1,871.22	\$1,829.93	\$1,908.70	\$1,993.01	28%
Total remaining for food	\$326.22	\$357.75	\$384.25	\$549.57	\$727.78	\$805.70	147%
Cost of the NNFB	\$572.90	\$617.42	\$648.33	\$673.62	\$770.65	\$850.59	35%
Funds remaining	(\$246.68)	(\$259.67)	(\$264.08)	(\$124.05)	(\$42.87)	(\$44.89)	-82%

* Woman and man aged 31-49 years, one working full-time (FT) (40 hours per week) and one working part-time (PT) (20 hours per week); boy aged 13 years, girl aged 7 years.

CCP=Canada Pension Plan; EI=employment insurance; NNFB=National Nutritious Food Basket.

food items that are minimally processed, widely available in grocery stores and commonly eaten by most Canadians in amounts that would provide a nutritionally adequate, balanced diet for specific age and sex groups.¹⁸ A detailed description of the model and methods for participatory food costing has been reported previously.^{16,19}

The monthly cost of the NNFB was determined for a variety of age and sex categories using a random sample of grocery stores across NS stratified by District Health Authority, store size, and county. Food costs were calculated for each household scenario using the NNFB cost for specific age and sex categories and then corrected for household size using an adjustment factor (see Appendix B).¹⁸ For each time period, the lowest possible price of each item from the NNFB¹⁸ was collected by food costers who were trained to conduct participatory food costing using standardized methods,^{18,20} as previously reported.¹⁹ From 2002 to 2008, prices were collected for 66 food items that comprises the 1998 NNFB, while in 2010 and 2012, prices were collected for the 67 basic food items in the updated NNFB released by Health Canada in 2008.¹⁸

Estimating monthly household incomes

Minimum wage rates reported by Human Resources and Skills Development Canada for June of each food costing data collection cycle, 2002 to 2012, were used for each scenario. Income was calculated by multiplying the minimum wage rate by the number of hours assumed to be worked per week (20 for part-time unless stated otherwise and 40 for full-time), which was then multiplied by 4.33, the average number of weeks per month. Federal and provincial tax deductions were calculated and federal and provincial tax benefits were considered where applicable (e.g., Canada child tax benefit).

Estimating monthly household expenses

Monthly costs were approximated from secondary data, including the Survey of Household Spending (SHS) and the Consumer Price Index (CPI)[†], for items considered fundamental elements that provide basic, acceptable living conditions as previously published:^{16,17} shelter, power, telephone, transportation, child care, clothing and footwear, personal care and household cleaning supplies. The methods used for calculating basic living expenses were standardized from 2002 to 2012 to allow us to compare findings across the six food costing cycles.

RESULTS

The results demonstrate that across the 10-year span of our research, most households earning minimum wage in NS were consistently unable to meet their basic needs. These findings show that although minimum wage in NS has increased since 2002, and more steadily since 2005, most households relying solely on minimum wage earnings would be at risk of not being able to meet their basic nutritional requirements. The inability to meet basic needs varied for each household scenario as described below and as shown in Figure 1.

A household of four

From 2002 to 2012, a household of four with two adults relying on minimum wage earnings consistently had inadequate funds left over to purchase a nutritiously adequate diet after other essential monthly expenses were paid. As shown in Table 1, had this household purchased the NNFB for two adults and two children in 2002, they would have experienced a monthly deficit

[†] The Consumer Price Index compares the changes in consumer prices over time of a fixed basket of goods and services purchased by Canadians.²¹

Table 2. Potential monthly financial gap in funds remaining for additional expenses after purchasing a basic nutritious diet for a lone mother with three children* earning minimum wage in Nova Scotia between 2002 and 2012

	Year						% Change 2002-2012
	2002 (min wage FT = \$5.80/hr)	2004/2005 (min wage FT = \$6.50/hr)	2007 (min wage FT = \$7.60/hr)	2008 (min wage FT = \$8.10/hr)	2010 (min wage FT = \$9.20/hr)	2012 (min wage FT = \$10.15/hr)	
Monthly gross income	\$1,004.56	\$1,125.80	\$1,316.32	\$1,402.92	\$1,593.44	\$1,757.98	75%
Federal tax	\$49.65	\$62.13	\$63.90	\$65.81	\$82.30	\$99.02	99%
Provincial tax	\$33.95	\$40.60	\$53.95	\$59.72	\$71.68	\$83.20	145%
CCP	\$33.51	\$41.29	\$50.72	\$55.01	\$64.44	\$72.58	117%
EI	\$22.10	\$22.29	\$23.69	\$24.27	\$27.57	\$32.17	46%
Total payroll deductions	\$139.21	\$166.31	\$192.26	\$204.81	\$245.99	\$286.97	106%
Net income	\$865.35	\$959.49	\$1,124.06	\$1,198.11	\$1,347.45	\$1,471.01	70%
Canada child tax benefit	\$727.66	\$784.62	\$913.75	\$930.66	\$931.43	\$900.81	24%
WITB	n/a	n/a	\$140.00	\$140.00	\$140.00	\$140.00	
Goods & services tax	\$63.50	\$65.67	\$69.17	\$70.75	\$73.83	\$75.42	19%
NS affordable living tax credit	n/a	n/a	n/a	n/a	n/a	\$35.88	
Disposable income	\$1,656.51	\$1,809.78	\$2,246.98	\$2,339.52	\$2,492.71	\$2,623.12	58%
Basic monthly expenses							
Shelter	\$712.58	\$729.06	\$797.35	\$804.69	\$822.02	\$845.20	19%
Power	\$121.37	\$129.09	\$146.15	\$144.87	\$161.67	\$177.39	46%
Telephone	\$27.72	\$27.79	\$27.69	\$29.02	\$29.60	\$29.91	8%
Transportation (private)	\$317.74	\$391.32	\$425.52	\$403.35	\$464.44	\$478.34	51%
Child care	\$378.24	\$390.96	\$419.43	\$445.43	\$486.88	\$526.10	39%
Clothing, footwear, etc.	\$153.79	\$150.98	\$201.97	\$171.17	\$184.26	\$191.00	24%
Personal care expenses	\$65.98	\$83.70	\$99.20	\$97.04	\$70.01	\$73.03	11%
Household cleaning supplies	\$28.88	\$31.69	\$33.53	\$31.31	\$22.13	\$22.77	-21%
Total basic expenses	\$1,806.30	\$1,934.59	\$2,150.84	\$2,126.88	\$2,241.01	\$2,343.74	30%
Total remaining for food	(\$149.79)	(\$124.81)	\$96.14	\$212.64	\$251.70	\$279.38	-287%
Cost of the NNFB	\$510.08	\$550.82	\$578.45	\$606.59	\$660.84	\$776.15	30%
Funds remaining	(\$659.87)	(\$675.63)	(\$482.31)	(\$393.95)	(\$409.14)	(\$496.77)	-25%

* Woman aged 31-49 years working FT (full-time) (40 hours per week), two boys aged 7 and 10 years, one girl aged 12 years.
CCP=Canada Pension Plan; EI=employment insurance; WITB=working income tax benefit; NNFB=National Nutritious Food Basket.

Table 3. Potential monthly financial gap in funds remaining for additional expenses after purchasing a basic nutritious diet for a lone man* earning minimum wage and working full-time in Nova Scotia between 2002 and 2012

	Year						% Change 2002-2012
	2002 (min wage FT = \$5.80/hr)	2004/2005 (min wage FT = \$6.50/hr)	2007 (min wage FT = \$7.60/hr)	2008 (min wage FT = \$8.10/hr)	2010 (min wage FT = \$9.20/hr)	2012 (min wage FT = \$10.15/hr)	
Monthly gross income	\$1,004.56	\$1,125.80	\$1,316.32	\$1,402.92	\$1,593.44	\$1,757.98	75%
Federal tax	\$49.65	\$62.13	\$63.90	\$65.81	\$82.30	\$99.02	99%
Provincial tax	\$33.95	\$40.60	\$53.95	\$59.72	\$71.68	\$83.20	145%
CCP	\$33.51	\$41.29	\$50.72	\$55.01	\$64.44	\$72.58	117%
EI	\$22.10	\$22.29	\$23.69	\$24.27	\$27.57	\$32.17	46%
Total payroll deductions	\$139.21	\$166.31	\$192.26	\$204.81	\$245.99	\$286.97	106%
Net income	\$865.35	\$959.49	\$1,124.06	\$1,198.11	\$1,347.45	\$1,471.01	70%
Goods & services tax credit	\$27.08	\$28.00	\$29.50	\$30.17	\$31.50	\$32.17	19%
NS affordable living tax credit	n/a	n/a	n/a	n/a	n/a	\$20.44	
Disposable income	\$892.43	\$987.49	\$1,153.56	\$1,228.28	\$1,378.95	\$1,523.62	71%
Basic monthly expenses							
Shelter	\$458.89	\$463.02	\$496.99	\$518.75	\$558.44	\$574.19	25%
Power	\$71.86	\$76.07	\$85.35	\$84.58	\$92.21	\$100.15	39%
Telephone	\$27.72	\$27.79	\$27.69	\$29.02	\$29.60	\$29.91	8%
Transportation (public)	\$16.25	\$12.33	\$17.13	\$19.53	\$18.38	\$20.40	26%
Clothing, footwear, etc.	\$45.19	\$44.36	\$59.35	\$50.30	\$54.15	\$56.13	24%
Personal care expenses	\$19.39	\$24.60	\$29.15	\$28.52	\$20.57	\$21.33	10%
Household cleaning supplies	\$8.48	\$9.31	\$9.86	\$9.20	\$6.50	\$6.69	-21%
Total basic expenses	\$647.78	\$657.48	\$725.52	\$739.90	\$779.85	\$808.80	25%
Funds remaining for food	\$244.65	\$330.01	\$428.04	\$488.38	\$599.10	\$714.82	192%
Cost of the NNFB	\$198.73	\$213.67	\$223.13	\$230.51	\$295.88	\$329.99	66%
Funds remaining	\$45.92	\$116.34	\$204.91	\$257.87	\$303.22	\$384.83	738%

* Man aged 19-24 years working full-time (FT) (40 hours per week).
CCP=Canada Pension Plan; EI=employment insurance; WITB=working income tax benefit; NNFB=National Nutritious Food Basket.

of \$246.68. In 2012, although their potential deficit had decreased, this household would still experience a monthly deficit of \$44.89 if they were to purchase a nutritious food basket.

Lone mother with three children

During the equivalent timeframe, a lone mother relying on full-time minimum wage earnings would also have had inadequate funds to purchase a basic nutritious diet for herself and her three children. As shown in Table 2, purchasing the NNFB in 2002

would have left this household with a monthly deficit of \$659.87. In 2012, she would still be facing a deficit of \$496.77 each month if she were to purchase a basic nutritious diet.

Lone man

As shown in Table 3, if a lone man between the ages of 19 and 24 years was working full-time for minimum wage between 2002 and 2012, he would have adequate monthly income to cover his essential expenses and purchase a basic nutritious diet. If he were

to work only 30 hours per week¹ and purchase a basic nutritious diet, he would have faced a monthly deficit of \$127.69 in 2002 while in 2012, he would be left with \$72.60 a month to purchase all other expenses (data not shown).

DISCUSSION

Our findings indicate that the current minimum wage in NS does not allow earners to meet their basic needs, including a nutritious diet, with the exception of a lone man working 40 hours a week or at least 30 hours weekly in 2012. Since our earlier findings on the adequacy of minimum wage in NS,¹⁰ several increases to the minimum wage,²³ amounting to a 79% increase over 12 years,* have made a difference in the probability that individuals and families dependent on minimum wage earnings can cope financially. However, our findings show that the minimum wage in NS in 2012 remained inadequate to meet basic needs for a household of four and a lone mother with three children, with the latter household scenario still experiencing a substantial potential deficit after purchasing a nutritious diet. The results also suggest that these households may be required to compromise nutrition to afford other unavoidable expenses, and that for all households, with the exception of the lone man working 40 hours weekly, few, if any, funds remained for additional expenses, such as attaining higher education or saving for emergencies or retirement.

Our findings suggesting that NS households reliant on minimum wage may be able to better cope financially in 2012 than 2002 are consistent with findings from the Canadian Community Health Survey (CCHS), which documented a decrease in rates of household food insecurity in NS between 2005 (16.1%) and 2008 (13.5%).⁸ It is not consistent with more recent findings from the CCHS, however, showing an increase to 17.5% of Nova Scotians reporting food insecurity in 2012,⁸ nor with the 39.3% increase in the use of food banks documented by Food Banks Canada between 2008 and 2012.²⁴ While estimates of food insecurity from the CCHS provide a valid measure of uncertain food availability and access, it is not clear how many households experiencing food insecurity are reliant solely on minimum wage earnings. Moreover, the prevalence of food insecurity reported in the CCHS is likely an underestimate, as the data do not include those who are homeless or living on First Nations reserves or in remote locations, populations particularly vulnerable to food insecurity.⁸ Although helpful in examining trends over time, current data on food bank usage does not provide reliable measures of the need for, or use of, food banks or charitable food assistance in Canada, and only 20-30% of those who are food insecure typically use food banks^{25,26} and those who do still commonly report going hungry.^{3,27} Although it is impossible to directly compare our findings with other indicators of risk of food insecurity, our findings corroborate previous research that shows the inadequacy of the minimum wage in addressing poverty^{11,28-31} and may help explain why almost 65% of those experiencing food insecurity in 2012 were households whose main source of income was wages and salaries.⁸

Even with the proposed annual increases to the minimum wage to account for inflation, in real terms the current minimum wage in NS of \$10.40/hr is only slightly better than it was in

* 2014 wage-2002 wage/2002 wage x 100.

1976, when it was \$2.50, or \$9.97 in 2011 equivalent dollars.^{22,31} Moreover, with food being the most flexible part of the household budget, if the trend of finding full-time, permanent work in NS remains a challenge²² and the cost of fresh vegetables, fruits, grains and meats continues to out pace other more fixed costs of living,³² individuals and households relying on minimum wage earnings will compromise their food budgets, hence their nutrition. These findings provide evidence that a nutritious diet is out of reach for many households relying on minimum wage earnings. They also suggest that minimum wage earners in NS, particularly those who are lone or two parent families, or without full-time employment will continue to be at risk of food insecurity if there are not significant increases to the minimum wage above those currently proposed by the Minimum Wage Review Committee.²³

Our findings have relevance to other Canadian jurisdictions where minimum wage has been stagnant and its adequacy in addressing poverty and food insecurity has been questioned.^{28-31,33} Although the minimum wage in NS currently exceeds that in all other provinces and territories, with the exception of the Yukon (\$10.54/hr),[†] our findings raise questions about its adequacy. These findings are particularly concerning given the accumulating evidence of the negative effects of income inequities for society.^{34,35}

While interventions focused on wage and income supplement increases and supports for expenses, such as housing and transportation, are essential in the short-term and the longer term, these findings and other analyses^{31,35} raise questions about the efficacy of minimum wage as the pivotal intervention with respect to health equity. Across Canada and the United States, and even globally (i.e., United Kingdom, Australia and New Zealand),³⁶ a living wage is being tested, in some cases, as an alternative to minimum wage. A living wage is a calculated wage that employers would be required to pay in order for employees to meet the basic costs of living.[‡]³⁷ Although questions remain with respect to whether implementing a living wage is feasible for all communities and sustainable for employers, given these findings it should be considered as a long-term goal that may ultimately provide multiple benefits for individuals, communities and the economy as a whole.^{37,38} Advocating for an adequate livable income that allows families to meet their basic needs, including purchasing a nutritious diet, is a step that public health professionals and others can take to help ensure positive health outcomes for all Canadians.

Public health practitioners have the greatest potential to effectively address income inadequacy and household food insecurity outside of the realm of health portfolios, and it is critical that they continue to work together across sectors, both horizontally and vertically, to advocate for and support the development and implementation of integrated, progressive and sustainable social policies. These policies can help to improve the

† Service Nova Scotia. Hourly minimum wage rates for adult workers: <http://srv116.services.gc.ca/dimt-wid/sm-mw/rpt2.aspx?lang=eng&dec=5>.

‡ The living wage is more comprehensive than the minimum wage, as it should be adequate to support a family. The calculated living wage covers basic expenses such as food, shelter, clothing, transportation, child care, a small emergency reserve and other expenses like furniture and school supplies. The living wage is a modest approximation, yet it is high enough that families can endure a temporary emergency without dwindling into poverty.³⁷

Appendix A. Description of monthly expense estimates and data sources for selected households earning minimum wage in Nova Scotia, 2002 to 2012

Expense category	Explanation of monthly estimate	Source	Additional comments
Shelter	Average values from SHS “rented living quarters” (2009) for a second quintile NS household were used to estimate shelter costs. 2009 SHS data were adjusted to June 2012 using CPI. The 2009 SHS data were also used and adjusted using CPI for 2002 to 2008. CMHC average rent calculations were used to adjust SHS “rented living quarter” amounts to 1 and 3 bedroom apartment sizes.	SHS* CPI† CMHC‡	SHS second quintile estimates include the cost of heat and hot water.
Power	Conservative estimates for 1 and 3 bedroom apartments were determined using the NS Power Energy Calculator. The 3 bedroom was based on a 1100 usage kilowatt per hour (kWh) per month and the 1 bedroom was based on a 600 usage kWh per month. The kWh per month was then multiplied by the domestic rate for the appropriate year. There is a monthly base rate of \$10.83 that is added plus tax to the kWh per month calculation to determine the overall monthly total for power usage.	NS Power™	Assumed to be an additional expense above estimates used for shelter.
Telephone	Monthly cost of the most basic touch tone phone service provided by local telephone service provider in NS.	BellAliant™	Does not include installation charges, supplementary phone options or long distance plans/charges.
Transportation (private)	Based on SHS estimates 2002 to 2010. To calculate private transportation, the average amount for “private transportation”, “owned or leased vehicles” was used. This includes the cost of gasoline, insurance, registration fees, maintenance, etc. 2010 SHS data were adjusted to June 2012 using CPI.	SHS*, CPI†	SHS data (spending/household) were converted to spending/individual, then adjusted for various family sizes using a scalar of 80.1%§.
Transportation (public)	Based on SHS estimates 2002 to 2010. To calculate public transportation, the SHS average amounts for “public transportation” were used. 2010 SHS data were adjusted to June 2012 using CPI.	SHS*, CPI†	SHS data (spending/household) were converted to spending/individual, then adjusted for various family sizes using a scalar of 80.1%§.
Child care	In 2012, average afterschool child care costs \$12/day. (D. Reimer, personal communication, 2011). Partial subsidy amount for afterschool care is approximately \$3.90/day/child. Families eligible for subsidies pay \$8.10/day/child. Rates were multiplied by 21.65 days/month for monthly rates. The monthly child care rate for 2012 was adjusted using CPI to calculate child care rates for 2002 to 2010.	NS Department of Community Services	Assumed partially subsidized rates for those earning minimum wage. Subsidized rates are only available for children 12 years of age and under.
Clothing and footwear	Based on SHS average estimates 2002 to 2010. Adjusted to June 2012 estimates using CPI.	SHS§	SHS data (spending/household) were converted to spending/individual, then adjusted for various family sizes using a scalar of 80.1%§.
Personal care expenses and household cleaning supplies	Based on SHS average estimates 2002 to 2010. Adjusted to June 2012 estimates using CPI.	SHS§	SHS data (spending/household) were converted to spending/individual, then adjusted for various family sizes using a scalar of 80.1%§.
Food	Weekly NNFB cost for various age and sex groups.	NNFB (1998 and 2008) food costing data 2002 to 2012.	Adjusted for economies of household size,¶ and then weekly costs were multiplied by 4.33 to arrive at the monthly costs.

* SHS, Survey of Household Spending, Statistics Canada, 2002 to 2010. In all scenarios, amounts from the second quintile are used (the second lowest socio-economic bracket surveyed) as these figures are assumed to represent the spending habits of a person or family relying on minimum wage earnings.

† CPI, Consumer Price Index, Statistics Canada, 2002 to 2012.

‡ CMHC, Canada Mortgage and Housing Corporation, Nova Scotia Highlights, 2010.

§ SHS data are reported by spending/average household size. Average family sizes vary from 2002 to 2012. Spending/individual costs were calculated by dividing the reported costs by average family size. A scalar of 80.1% was used to estimate costs for each additional family member. An 80.1% scalar is recommended by the Social Planning and Research Council of BC (2001).

|| NNFB, National Nutritious Food Basket.

¶ Household size adjustment factor: 1 person – increase cost by 15%; 2 people – increase cost by 10%; 3 people – increase cost by 5%; 4 people – no change; 5 people – decrease cost by 5%; 6 people – decrease cost by 10%.

socio-economic conditions for individuals and families, thereby improving their food security, addressing this important social determinant of health, and ensuring long-term health equity across the population. This should include, but is not limited to, broader system-level changes, such as creating a national affordable housing policy; developing a universal child care system that all families can access; and guaranteeing an adequate livable income wage. Indeed, a significant fiscal investment in social and health spending has been shown to reduce inequalities and poverty, and increase citizens' quality of life³⁵ with the potential to improve access to food.³⁴

Limitations

The affordability scenarios are only estimates of the basic costs of living; they apply conservative estimates based on secondary data

for expenses considered essential. In addition to using the SHS data to estimate shelter costs, we also estimated these using Canada Mortgage and Housing Corporation (CMHC) data for NS. The average monthly costs during the period of our study ranged from \$921 to \$1,101.04 for a three-bedroom and \$586 to \$747 for a one-bedroom apartment. These CMHC shelter costs represent an increase of 20% and 27% respectively, consistent with the increase in shelter costs from 2002 to 2012 using SHS data, i.e., 19% and 25% for a three- and one-bedroom apartment, respectively. Using the CMHC estimates would mean that all scenarios would result in more substantial deficits if the households were to purchase a nutritious diet. Moreover, the scenarios involving children consider that the household is approved for a partial child care subsidy; if not, the household would experience a greater financial deficit at the end of the

Appendix B. Average monthly cost of a National Nutritious Food Basket (NNFB)* for relevant age and sex groups in Nova Scotia between 2002 and 2012

1998 NNFB						2008 NNFB			
Sex	Age (yrs)	Cost/month 2002	Cost/month 2004/05	Cost/month 2007	Cost/month 2008	Sex	Age (yrs)	Cost/month 2010	Cost/month 2012
Child	1	\$69.06	\$74.04	\$78.68	\$81.92	Boy	2-3	\$115.44	\$125.96
	2-3	\$72.18	\$77.77	\$82.36	\$86.38		4-8	\$148.43	\$159.00
	4-6	\$95.13	\$102.88	\$108.99	\$114.70	Girl	9-13	\$194.59	\$213.47
Boy	7-9	\$112.54	\$121.28	\$125.79	\$134.62		14-18	\$267.16	\$297.99
	10-12	\$140.12	\$151.59	\$159.60	\$167.09		2-3	\$113.23	\$126.09
Girl	13-15	\$164.19	\$177.27	\$186.49	\$194.50	Man	4-8	\$144.02	\$156.92
	16-18	\$189.05	\$204.25	\$213.69	\$222.00		9-13	\$119.25	\$183.20
	7-9	\$108.64	\$117.13	\$123.62	\$129.29		14-18	\$198.66	\$217.80
Man	10-12	\$130.16	\$140.73	\$148.87	\$155.49	Woman	19-30	\$257.29	\$286.95
	13-15	\$138.73	\$149.82	\$158.30	\$165.49		31-50	\$233.47	\$259.76
	16-18	\$130.64	\$140.68	\$148.00	\$154.10		51-70	\$225.59	\$251.05
Woman	19-24	\$178.05	\$191.91	\$200.39	\$207.71		19-30	\$200.57	\$222.74
	25-49	\$172.81	\$185.80	\$194.03	\$200.44		31-50	\$198.57	\$220.48
	19-24	\$133.62	\$143.63	\$151.03	\$156.88		51-70	\$178.57	\$196.89
	25-49	\$127.26	\$137.22	\$144.19	\$149.39				

* The 1998 NNFB included a list of food items based on the food purchasing patterns of Canadian households and nutrition recommendations at that time. In 2008, Health Canada updated the tool to reflect current dietary recommendations and consumption patterns for Canadians; the age categories differ slightly from 1998 to 2008. The 1998 and 2008 NNFB include a list of 66 and 67 foods that are used to calculate the cost of a basic nutritious diet for 23 and 20 different age and sex groups, respectively.^{16,18}

month. It has been estimated that more than 300 families are on the waitlist to be considered for child care subsidy in Nova Scotia,* which is an indication that these supplemental aids are restricted. Expenses such as health care costs, household maintenance, and those related to chronic disease or disability are not accounted for in the scenarios. Thus, it is anticipated that the scenarios underestimate the actual cost of essential expenses and the potential monthly deficit faced by those relying on minimum wage earnings. The scenarios integrate concrete financial data but do not reflect the definite numbers of minimum wage earners who experience food insecurity and also do not consider individual and household-level coping strategies, i.e., gaining financial or food supports from family, friends or charitable organizations. Moreover, the scenarios do not examine diversity between rural and urban communities in NS. Individuals living in rural communities may spend less on housing but may have increased food and transportation costs.¹⁶

CONCLUSION

Even with increases in minimum wage, it is likely that households in NS with children and those without full-time work (40 hours weekly) relying on minimum wage earnings in 2012 are not able to afford a nutritious diet assuming that other essential needs are covered, putting them at risk of food insecurity, inadequate nutrition and related health problems. Future research in this area may contribute to an understanding of the actual impact of minimum wage policies on food security and which policy intervention(s) would have the most impact. Recognizing that food security is a complex issue that requires a multidisciplinary, multi-sectoral approach, with no one “fix-all” solution, there is an urgent need for public health practitioners to work collaboratively across sectors to advocate for, and support the development and implementation of healthy public policies to ensure that individuals and families have adequate financial and social resources to meet their basic needs. This requires a shift in thinking about the long-term adequacy of a minimum wage towards a more comprehensive policy framework to ensure an adequate livable income.

* Reimer D. Personal communication. December 2011.

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RÉSUMÉ

OBJECTIF : Évaluer l'abordabilité d'un régime alimentaire nutritif pour les ménages qui gagnaient le salaire minimum en Nouvelle-Écosse (N.-É.) de 2002 à 2012, à l'aide d'une simulation économique incluant des données de calcul des coûts des aliments et des données secondaires.

MÉTHODE : Nous avons calculé le coût du Panier à provisions nutritif national (PPNN) dans un échantillon aléatoire d'épicerie de la N.-É. au cours de six périodes (2002, 2004-2005, 2007, 2008, 2010 et 2012). Nous avons intégré le coût du PPNN dans des scénarios d'abordabilité pour trois types de ménages au salaire minimum : une famille de quatre personnes; une mère de famille monoparentale avec trois enfants; et un homme seul. Nous avons déduit les frais de subsistance mensuels de base du revenu net mensuel à l'aide de méthodes standardisées, de 2002 à 2012, pour déterminer s'il restait suffisamment d'argent pour acheter les aliments de base d'un régime nutritif au cours des six périodes.

RÉSULTATS : Une hausse de 79 % du salaire minimum en N.-É. a entraîné une baisse du déficit potentiel des ménages selon chaque scénario durant la période à l'étude. Cependant, le ménage de quatre personnes et celui de la mère de famille monoparentale avec trois enfants seraient encore confrontés à des déficits mensuels (de 44,89 \$ et de 496,77 \$, respectivement, en 2012) s'ils devaient acheter les aliments d'un régime suffisamment nutritif.

CONCLUSION : Le risque d'insécurité alimentaire, en tant que déterminant social de la santé, est un grave problème de santé publique pour les petits salariés. Nous reconnaissons qu'il est essentiel de hausser le salaire minimum à court terme, mais pour aborder convenablement la suffisance des revenus en N.-É. et ailleurs, il faut modifier notre façon de penser en insistant moins sur le salaire minimum et davantage sur des politiques plus globales, qui assurent un revenu de subsistance suffisant à tout le monde.

MOTS CLÉS : politique nutritionnelle; salaire minimum; budget familial; population à faible revenu; sécurité alimentaire; insécurité alimentaire; pauvreté; politique sociale; inégalités des revenus; calcul des coûts des aliments