

# Can Households Earning Minimum Wage in Nova Scotia Afford a Nutritious Diet?

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## ABSTRACT

**Objective:** To assess the affordability of a nutritious diet for households earning minimum wage in Nova Scotia.

**Methods:** Food costing data were collected in 43 randomly selected grocery stores throughout NS in 2002 using the National Nutritious Food Basket (NNFB). To estimate the affordability of a nutritious diet for households earning minimum wage, average monthly costs for essential expenses were subtracted from overall income to see if enough money remained for the cost of the NNFB. This was calculated for three types of household: 1) two parents and two children; 2) lone parent and two children; and 3) single male. Calculations were also made for the proposed 2006 minimum wage increase with expenses adjusted using the Consumer Price Index (CPI).

**Results:** The monthly cost of the NNFB priced in 2002 for the three types of household was \$572.90, \$351.68, and \$198.73, respectively. Put into the context of basic living, these data showed that Nova Scotians relying on minimum wage could not afford to purchase a nutritious diet and meet their basic needs, placing their health at risk. These basic expenses do not include other routine costs, such as personal hygiene products, household and laundry cleaners, and prescriptions and costs associated with physical activity, education or savings for unexpected expenses.

**Conclusion:** People working at minimum wage in Nova Scotia have not had adequate income to meet basic needs, including a nutritious diet. The 2006 increase in minimum wage to \$7.15/hr is inadequate to ensure that Nova Scotians working at minimum wage are able to meet these basic needs. Wage increases and supplements, along with supports for expenses such as childcare and transportation, are indicated to address this public health problem.

**MeSH terms:** Diet; family finance; low-income population; Nova Scotia; poverty; social welfare

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

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Inadequate income is a key determinant of compromised nutrition and contributes to disparities in health status.<sup>1-4</sup> Comparing the cost of a nutritious diet to income levels provides a proxy measure of the affordability and accessibility of a nutritious diet, as well as income adequacy.<sup>5</sup> Food costing data have most commonly been used to critically examine policies and programs related to the adequacy of welfare rates in Canada, clearly demonstrating their inadequacy.<sup>1,6-8</sup>

Over the last decade, the adequacy of minimum wage rates throughout Canada,<sup>9</sup> and specifically Atlantic Canada,<sup>10</sup> has been criticized. While minimum wage varies from province to province, analyses demonstrate that rates have fallen so earnings from full-time employment are significantly below the Low Income Cut Off.<sup>11,12</sup>

At \$7.15/hr, Nova Scotia's April 2006 minimum wage rate<sup>13</sup> is one of the lowest in the country, even with an increase of \$1.15 since 2002. With inflation, the rate actually decreased between 1976 and 2002 by about \$2.00/hr.<sup>14</sup> Specific application of data on the cost of a nutritious diet to minimum wage rates has not been published. The purpose of this study was to assess the affordability of a nutritious diet for selected household types earning minimum wage by comparing potential incomes to the costs of the NNFB and other essential expenditures in Nova Scotia (NS).

## METHODS

### Collection of food costing data

Food costing data were collected using Health Canada's National Nutritious Food Basket (NNFB).<sup>15</sup> The NNFB consists of a fixed set of basic, minimally-processed foods that are nutritious, widely available and commonly eaten by most Canadians, in amounts that would provide a healthy balanced diet for specific age and gender groups. Two focus groups were conducted with low-income women, one in a low-income urban Black community, and one in a rural area, to ensure low-income families considered the list of foods acceptable and adequate to plan monthly menus. Systematic random sampling based on population, the total number of grocery stores, and an allowance for 5 store refusals resulted in a sample of 44 grocery stores throughout NS. Prior to data collection, store managers were sent letters and subse-

quently contacted inviting the store's participation. One store declined participation.

Using participatory research methods,<sup>16</sup> 54 participants of 21 Family Resource Centres/Projects (FRC/Ps) throughout the province, and 18 support people (public health nutritionists, dietetic interns and FRC/P staff) were trained using standardized guidelines<sup>15,17</sup> for the in-store food pricing. Food costing data were collected in the spring and fall of 2002 to take into consideration seasonal variability. The average of these two surveys was used during analysis (see Appendix 1). The NS Consumer Price Index (CPI) 'food purchased from stores' component<sup>18</sup> was used to project 2006 NNFB costs from the 2002 results. All food costers were provided with honoraria of \$42 per store and transportation and childcare expenses were covered. Dalhousie University's Office of Research Ethics Administration approved the study.

### Estimation of household incomes and expenses

The assessment of income adequacy and the financial impact of purchasing a nutritious diet required assumptions about actual income, costs of goods and services, and what is considered essential for a basic standard of living.<sup>1</sup> To estimate the affordability of a nutritious diet, monthly costs for food, shelter, and other expenses deemed essential were compared to potential monthly incomes for three hypothetical household types relying on minimum wage earnings: 1) a family of four (two parents, with a boy 13 and girl 7 years of age), 2) a lone-parent female-headed household, with a boy 7 and girl 4 years of age, and 3) a single adult male aged 30 years.

The estimated incomes for each household were based on after-tax income including wages, child tax benefits (CTB), and goods and services tax (GST) credits. Minimum wage earnings were based on October 2002 and April 2006 rates of \$6.00<sup>19</sup> and \$7.15/hr,<sup>13</sup> respectively. CTB and GST credits were calculated based on household income and composition using Canada Revenue Agency on-line calculator.<sup>20</sup> Net incomes were calculated by deducting the rates for Federal and Provincial Income Taxes, Canada Pension Plan, and Employment Insurance from the gross income for the earner(s) in each scenario. At the time of the 2002 food cost-

**TABLE I**

### Comparison of Potential Financial Impact of Purchasing a Nutritious Diet on Monthly Funds Remaining After Expenses for a Family of Four Earning Minimum Wage in Nova Scotia

	One PT*, one FT† Minimum Wage \$6.00/hr October 2002	One PT*, one FT† Minimum Wage \$7.15/hr April 2006 (projected)
Monthly Net Income		
Wages	\$1,076.08	\$1,317.84
CTB	\$512.07	\$457.91
GST benefit	\$55.00	\$57.83
Total	\$1,643.15	\$1,833.58
Basic Monthly Expenses		
Shelter	\$598.39	\$615.67
Power/heat/water	\$125.00	\$161.93
Telephone	\$28.75	\$23.00
Transportation‡	\$340.99	\$377.67
Childcare	\$131.09	\$149.80
Clothing, footwear, etc.	\$188.13	\$186.77
Funds remaining for food	\$230.80	\$318.74
Cost of the NNFB§	\$572.90	\$614.63
Funds remaining for other expenses	(-\$342.10)	(-\$295.89)

\* PT – Part-time, considered to be working 20hr/week

† FT – Full-time, considered to be working 40hr/week

‡ assumes rural area

§ NNFB – National Nutritious Food Basket, 1998<sup>15</sup>

|| Other expenses include other routine costs, such as personal hygiene products, household and laundry cleaners, and prescriptions, costs associated with physical activities, education or savings for unexpected expenses, and other miscellaneous expenses.

**TABLE II**

### Comparison of Potential Financial Impact of Purchasing a Nutritious Diet on Monthly Funds Remaining After Expenses for a Lone Female Parent Family with Two Children Earning Minimum Wage in Nova Scotia

	FT* Minimum Wage at \$6.00/hr October 2002	FT* Minimum Wage at \$7.15/hr April 2006 (projected)
Monthly Net Income		
Wages	\$712.73	\$873.75
CTB	\$512.07	\$564.15
GST benefit	\$55.00	\$57.83
Total	\$1,279.80	\$1,495.73
Basic Monthly Expenses		
Shelter	\$508.63	\$523.32
Power/heat/water	\$100.00	\$129.55
Telephone	\$28.75	\$23.00
Transportation†	\$289.84	\$321.01
Childcare	\$304.41	\$347.86
Clothing, footwear, etc.	\$159.91	\$158.76
Funds remaining for food	(-\$111.74)	(-\$77.77)
Cost of the NNFB‡	\$351.68	\$377.30
Funds remaining for other expenses§	(-\$463.42)	(-\$385.07)

\* FT – Full-time, considered to be working 40hr/week

† assumes rural area

‡ NNFB – National Nutritious Food Basket, 1998<sup>15</sup>

§ Other expenses include other routine costs, such as personal hygiene products, household and laundry cleaners, and prescriptions, costs associated with physical activities, education or savings for unexpected expenses, and other miscellaneous expenses.

ing, these rates were 16%,<sup>21</sup> 9.77%,<sup>21</sup> 4.79%,<sup>22</sup> and 2.2%<sup>22</sup> respectively; rates for April 2006 were 15%,<sup>23</sup> 8.79%,<sup>23</sup> 4.95%,<sup>24</sup> and 1.87%<sup>25</sup> respectively.

Estimates for expenses considered essential for a basic standard of living were based on categories included in the Market Basket Measure (MBM)<sup>26</sup> and the Survey of Family Expenditures<sup>27</sup> and included shelter, telephone service, transportation, clothing, and childcare. Data sources for each are outlined in Appendix 2. Estimates

for 2006 were adjusted for inflation by applying a factor corresponding to the CPI. Annual average indexes were used from the following: Shelter component (rented accommodation & water, fuel and electricity items),<sup>28</sup> Transportation component (private transportation & public transportation items),<sup>29</sup> Clothing and Footwear component (clothing and footwear items)<sup>30</sup> and Household Operations and Furnishings component (childcare and domestic services items).<sup>31</sup>

TABLE III

**Comparison of Potential Financial Impact of Purchasing a Nutritious Diet on Monthly Funds Remaining After Expenses for a Single Adult Male Earning Minimum Wage in Nova Scotia**

	FT* Minimum Wage \$6.00/hr October 2002	FT* Minimum Wage at \$7.15/hr April 2006 (projected)
Monthly Net Income		
Wages	\$712.73	\$873.75
CTB	\$0.00	\$0.00
GST credit	\$55.00	\$28.92
Total	\$767.73	\$902.67
Basic Monthly Expenses		
Shelter	\$299.20	\$307.84
Power/heat/water	\$62.50	\$80.97
Telephone	\$28.75	\$23.00
Transportation†	\$68.04	\$75.36
Childcare	\$0.00	\$0.00
Clothing, footwear, etc.	\$93.57	\$92.90
Funds remaining for food	\$215.67	\$322.60
Cost of the NNFB‡	\$198.73	\$213.21
Funds remaining for other expenses§	\$16.94	\$109.39

\* FT – Full-time, considered to be working 40hr/week  
† assumes urban area  
‡ NNFB – National Nutritious Food Basket, 1998<sup>15</sup>  
§ Other expenses include other routine costs, such as personal hygiene products, household and laundry cleaners, and prescriptions, costs associated with physical activities, education or savings for unexpected expenses, and other miscellaneous expenses.

Costs for a basic telephone package were obtained by sourcing the lowest priced communications provider in NS.<sup>32</sup>

Household expenses were deducted from the total income to reveal funds remaining for food; the cost of the NNFB was then deducted to estimate its affordability. Other routine costs, such as personal hygiene products, household and laundry cleaners, and prescriptions, costs associated with physical activities, education or savings for unexpected expenses were not incorporated into the scenarios.

## RESULTS

Results show that some households working for minimum wage are unable to meet their basic needs and may compromise their dietary intake in order to afford essential expenses. Results also show there is little disposable income for other expenses including personal hygiene products, household and laundry cleaners, and prescriptions, costs associated with physical activity, education or savings for unexpected expenses.

### Family of four

According to the NNFB data, a basic nutritious diet for a family of four in 2002 would cost at least \$572.90/month (Table I). When monthly costs for food, shelter, and other expenses considered essential for a basic standard of living were compared with average monthly incomes for a family of four with one adult working full-time

and the other part-time, the findings suggest that this family would face a deficit of \$342.10. Even when the 2006 increase in minimum wage was factored in, findings indicate an additional \$295.89 is still needed each month to afford a basic nutritious food basket costing \$614.63.

### Lone-parent family

A basic nutritious diet for a lone female parent working full-time with two children would cost at least \$351.68 and \$377.30/month in 2002 and 2006, respectively (Table II). The results show that whether earning \$6.00/hr in 2002 or \$7.15/hr in 2006, this household cannot even afford basic expenses before purchasing food; in fact, this family would face a deficit of \$111.74 and \$7.77, respectively, *before* the cost of the NNFB was factored in.

### Single adult male

The monthly cost of the NNFB in 2002 for a 30-year-old male was \$198.73/month; in 2006, this same basket would cost \$213.21/month (Table III). After the cost of a basic nutritious diet was factored in, the single male was left with just over \$100/month to cover all other potential expenses.

## DISCUSSION

The results demonstrate that some households earning minimum wage appear to be unable to afford a nutritious diet. While this is the first published study to specifically

examine the adequacy of minimum wage using food costing data, the conclusions are consistent with previous analyses of the adequacy of minimum wage rates using other methods.<sup>10,11</sup> Although minimum wage legislation was intended to protect society's most vulnerable workers, these findings suggest that current minimum wage rates in NS may place people's health at risk by denying them a nutritious diet. These results show that having a job is not necessarily enough to ensure food security. The inadequacy of minimum wage suggested by this and previous analyses<sup>10,11</sup> may help to explain why there has been an increase in waged persons accessing food banks<sup>33</sup> and reports of pressing problems with hunger and food insecurity in Canada<sup>33,34</sup> and NS.<sup>35</sup> The argument is often made that a low minimum wage affects only a small number of people and that minimum wage earners are typically youth and students.<sup>36</sup> In 2002, however, 16,700 Nova Scotians earned minimum wage or less with an increase to 21,900 in 2003,<sup>37</sup> of whom 68% were women, 5% were the primary 'breadwinners'<sup>37</sup> and 57% were over 19 years of age.<sup>36</sup>

Low minimum wage also keeps other wages low.<sup>36</sup> With a static minimum wage, there has been a considerable drop in the real incomes of most Nova Scotians and a rise in inequality. Middle- and low-income households have seen the biggest drop in disposable income, with the richest 20% averaging \$70,000 disposable, after-tax income, compared to the poorest 20% who averaged \$8,205.<sup>38</sup> With full-time permanent jobs becoming less and less common<sup>39</sup> and 57% of minimum wage earners working part-time in 2003,<sup>36</sup> many households may be faced with only part-time, casual, or temporary work, no benefits or ability to negotiate.<sup>39</sup> In 2000, 25% of the waged workforce in NS received less than \$8.10/hr, only slightly above the minimum wage,<sup>36</sup> suggesting that at least 25% may be struggling to meet their basic needs. Although minimum wage increased to \$7.15/hr in April 2006 in NS, these findings show that this increase is still inadequate to ensure all minimum wage earners are able to meet their basic needs. Estimates have suggested that a minimum wage of at least \$10.00/hr would be required to allow an unattached person to earn an income that would lift them out of poverty.<sup>40,41</sup>

Although estimates do not accurately depict the real life situations for any one household, those used here likely underestimate true household costs and needs. The 66 foods included on the NNFB are conservative with the assumption that all meals are almost exclusively made from scratch, and snack foods, frozen dinners, organic foods, food eaten away from home, pet foods, and non-food household items are not included. Also, most families purchase more than just the basic expenses considered in the analyses, placing them in further deficit often before purchasing a nutritious diet.

The estimates for shelter are substantially lower than findings from Canadian Mortgage and Housing's rental market survey,<sup>42</sup> and do not account for the quality of the housing offered at this rate. Low-income housing is often located near heavy traffic and/or industrial areas with inadequate access to transportation, grocery stores and outdoor spaces.<sup>43</sup> The choice to pay higher rent would obviously have a further negative impact on the ability of households to purchase a nutritious diet. Although subsidized rates for childcare were used, with only 2,600 and 2,880 subsidized spaces available in NS in 2001<sup>44</sup> and 2005,<sup>45</sup> respectively, such rates are not necessarily available. In our scenarios, even when clothing expenses were omitted, both households with children remained in a deficit.

Polanyi suggests that there is a need for an increase in minimum wage – for social and economic reasons, but also for health reasons.<sup>46</sup> Evidence suggests that programs that support concepts of a living wage, wage supplements, and individually framed employment arrangements lead to improved well-being<sup>41,46</sup> and increases in productivity, worker morale, and economic activity of beneficiaries.<sup>36</sup> McIntyre et al.'s analysis of families who reported persistent hunger over the two cycles of the same cohort in the National Longitudinal Study of Child and Youth showed that those who reported child hunger in 1996 but not in 1994 had lost an average of \$2,690 in annual household income, while families who had moved out of hunger during this period had added \$3,827 annually.<sup>47</sup> These findings demonstrate the need for progressive and sustainable employment policies, including regularly indexing the minimum wage to reflect the cost of living, and programs that provide necessary supports for working families such as access to affordable childcare, trans-

portation and housing to help Nova Scotians meet their basic needs, including a nutritious diet, and improve the health and well-being of the population.

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## Appendix 1

### Monthly Cost of the National Nutritious Food Basket (NNFB) for Selected Age and Gender Groups in Nova Scotia, Spring and Fall Average 2002<sup>16</sup>

Sex	Age (yrs)	Cost/month (\$)
Child	1	69.06
	2-3	72.18
	4-6	95.13
Boy	7-9	112.54
	10-12	140.12
	13-15	164.19
Girl	16-18	189.05
	7-9	108.64
	10-12	130.16
Man	13-15	138.73
	16-18	130.64
	19-24	178.05
Woman	25-49	172.81
	19-24	133.62
	25-49	127.26

## Appendix 2

## Estimation of Basic Monthly Household Expenses for Nova Scotia, 2002

Expense Category	Explanation and Estimate for Analysis	Source	Additional Comments
Shelter	Average 2000 MBM* shelter data† for community sizes in NS, adjusted to 2002 estimates using CPI‡. MBM estimates for 2000 were: \$580/month for reference family of 4; \$493/month for lone-parent family of 2; \$290/month for single unattached male.	MBM* <sup>48</sup>	MBM estimates based on median rent for 2- and 3-bedroom apartments in each community size, assuming that heat, water, and electricity expenses are included. <sup>48</sup> (See also electricity/heat/hot water).
Power/Heat/Hot water	Conservative estimates for 2-bedroom apartment with 2 occupants @ \$1200/yr & a mid-sized 3-bedroom apartment @ \$1500/yr.	NS Power	Assumed to be an additional expense above estimates used for shelter, as MBM estimates for shelter are substantially lower than Canadian Mortgage and Housing estimates.
Telephone	Monthly cost for basic touch tone phone service after installation (April 2002) - \$28.75/month.	Aliant™	Does not include installation charges, or other phone options, long-distance charges/plans.
Transportation	Based on MBM data† not including transporting children or transportation outside public transit hours, adjusted to 2002 estimates using CPI. MBM estimates for 2000 were: \$325.75/month for 2-parent family; \$276.88/month for lone-parent family; \$65/month for unattached male.	MBM* <sup>48</sup>	Based on the cost of owning and operating a 1995 Chevy Cavalier, including 20% of cost and annual interest on a 36-month loan, 1500 litres of regular gasoline, insurance and licence fees, a tune up and two oil changes. For urban areas based on a public transportation pass for two adults and one round-trip taxi ride monthly. When a scenario presented specifies an urban community, the public transportation cost is used. <sup>48</sup>
Childcare	Provincial licensed childcare rates \$6.05/day for families eligible for subsidized rates; \$8/half-day for school-age children. <sup>44</sup>	Nova Scotia Childcare Funding Review <sup>44</sup>	Assumed subsidized rates, and morning or afternoon care for part-time employment. Rates were multiplied by 21.667 days/month for monthly rates. <sup>44</sup>
Clothing/Footwear	Based on MBM data† and adjusted to 2002 estimates using CPI. MBM estimates for 2000 were: \$191/month for family of 4; \$162.35/month for lone-parent family of 3; \$95/month for single unattached male.	ALL <sup>§</sup> basket <sup>48</sup>	ALL basket developed by Winnipeg Harvest and the Winnipeg Social Planning Council with relative spatial indices applied to these costs to generate equivalent costs for other urban centres. <sup>48</sup> The estimates were based on urban centres only and were assumed consistent with other community sizes.
Food	Weekly food basket cost for reference family of 4 and 23 age and gender groups	NNFB <sup>  </sup> , 2002 NS food costing data <sup>27</sup>	Adjusted for economies of household size and then converted to monthly costs according to standardized procedures. <sup>15,17</sup>

\* MBM – Market Basket Measure

† The Low Income Measure (LIM) equivalence scale<sup>48</sup> was applied to the MBM data to account for differences in household size and composition

‡ CPI – Consumer Price Index

§ ALL – Acceptable Level of Living

|| NNFB – National Nutritious Food Basket

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## RÉSUMÉ

**Objectif :** Évaluer l'abordabilité d'un régime alimentaire nutritif pour les ménages qui gagnent le salaire minimum en Nouvelle-Écosse.

**Méthode :** Nous avons recueilli des données sur le prix des aliments dans 43 épicerie de Nouvelle-Écosse sélectionnées au hasard en 2002 selon la mesure du Panier de provisions nutritif (PPN). Pour estimer l'abordabilité d'un régime alimentaire nutritif pour les ménages gagnant le salaire minimum, nous avons soustrait du revenu global la valeur mensuelle moyenne des dépenses essentielles pour déterminer s'il restait assez d'argent pour acheter le PPN. Nous avons fait ce calcul pour trois types de ménages : 1) deux parents et deux enfants; 2) un seul parent et deux enfants; et 3) un homme célibataire. Nous avons aussi tenu compte de l'augmentation proposée du salaire minimum en 2006 en ajustant les dépenses selon l'indice des prix à la consommation (IPC).

**Résultats :** Les coûts mensuels du PPN en 2002 pour les trois types de ménages étaient de 572,90 \$, de 351,68 \$ et de 198,73 \$, respectivement. Ces données montrent que dans la vie quotidienne, les Néo-Écossais qui subsistent au salaire minimum ne pouvaient pas se permettre un régime alimentaire nutritif tout en répondant à leurs besoins fondamentaux, au risque de nuire à leur santé. Les dépenses de base n'incluaient pas les autres coûts habituels, comme l'achat d'articles d'hygiène personnelle, de produits d'entretien ménager et de détergents à lessive ou de médicaments, ni les coûts associés à l'activité physique, aux études ou aux imprévus.

**Conclusion :** Les travailleurs au salaire minimum en Nouvelle-Écosse ne gagnent pas un revenu suffisant pour répondre à leurs besoins fondamentaux, y compris le besoin d'un régime alimentaire nutritif. La hausse, en 2006, du salaire minimum à 7,15 \$ l'heure ne comble pas cet écart. La résolution de ce problème de santé publique impliquerait des hausses et des suppléments de salaire, ainsi que des services de garde et de transports subventionnés.

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