

**Comparing Food Costing Approaches in
British Columbia and Nova Scotia**

by
Clarissa D. Jones

BScHP, Dalhousie University, 2007

CAPSTONE SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF PUBLIC HEALTH

in the
Faculty of Health Science

© **Clarissa D. Jones, 2008**

SIMON FRASER UNIVERSITY

Fall 2008

All rights reserved.

This work may not be reproduced in whole or in part, by photocopy or
other means, without permission of the author.

Approval

Name: Clarissa D. Jones
Degree: Master of Public Health
Title of Thesis: *Comparing food costing approaches in British Columbia and Nova Scotia*
Examining Committee:

Chair: Dr Elliot Goldner
Associate Professor
Faculty of Health Sciences

Stephen Corber, MD, FRCPC
Associate Professor, Senior Supervisor
Director of Public Health Practice
Faculty of Health Sciences

Nicole S. Berry, PhD
Assistant Professor
Faculty of Health Sciences

Margaret Broughton, MSc, RD
Community Nutritionist
Vancouver Coastal Health

Date Approved: December 8, 2008



SIMON FRASER UNIVERSITY
LIBRARY

Declaration of Partial Copyright Licence

The author, whose copyright is declared on the title page of this work, has granted to Simon Fraser University the right to lend this thesis, project or extended essay to users of the Simon Fraser University Library, and to make partial or single copies only for such users or in response to a request from the library of any other university, or other educational institution, on its own behalf or for one of its users.

The author has further granted permission to Simon Fraser University to keep or make a digital copy for use in its circulating collection (currently available to the public at the "Institutional Repository" link of the SFU Library website <www.lib.sfu.ca> at: <<http://ir.lib.sfu.ca/handle/1892/112>>) and, without changing the content, to translate the thesis/project or extended essays, if technically possible, to any medium or format for the purpose of preservation of the digital work.

The author has further agreed that permission for multiple copying of this work for scholarly purposes may be granted by either the author or the Dean of Graduate Studies.

It is understood that copying or publication of this work for financial gain shall not be allowed without the author's written permission.

Permission for public performance, or limited permission for private scholarly use, of any multimedia materials forming part of this work, may have been granted by the author. This information may be found on the separately catalogued multimedia material and in the signed Partial Copyright Licence.

While licensing SFU to permit the above uses, the author retains copyright in the thesis, project or extended essays, including the right to change the work for subsequent purposes, including editing and publishing the work in whole or in part, and licensing other parties, as the author may desire.

The original Partial Copyright Licence attesting to these terms, and signed by this author, may be found in the original bound copy of this work, retained in the Simon Fraser University Archive.

Simon Fraser University Library
Burnaby, BC, Canada

Abstract

Food security is a determinant of health and a basic human right. Food insecurity is associated with a variety of negative health outcomes varying from nutrient deficiencies to chronic conditions such as cardiovascular disease and cancer. Therefore, the availability and affordability of a basic nutritious diet is a public health concern. Food costing is one method used to address affordability of a basic nutritious diet and is completed annually across Canada. In British Columbia, dietitians who work in public health conduct food costing. In Nova Scotia, trained community members who are or have been food insecure conduct food costing. This paper compares food costing approaches in British Columbia and Nova Scotia, exploring the strengths and challenges of each. Both systems have made important contributions to help address food security. The Nova Scotia model, using a participatory approach has an added benefit of building capacity within the local community.

Keywords: Food Insecurity; Food Costing; Capacity Building; Participatory Research

Subject Terms: Food Costing; Affordability; Capacity Building; Participatory Research

Acknowledgements

I would like to extend my gratitude and thanks to Dr. Stephen Corber for his advice, encouragement, guidance, and support throughout my career at Simon Fraser University. Thank you Dr. Corber for the invaluable feedback and comments for this capstone. I would also like to extend thanks to Dr. Nicole Berry for sharing my enthusiasm for this topic and for offering valuable insight, comments, and feedback for this project.

I would like to acknowledge, Janice MacDonald, Regional Executive Director, Dietitian's of Canada, BC Region, Andrea Ottem, Registered Dietitian in BC, Margaret Broughton, Registered Dietitian in BC, Robyn Newton, Manager of Research at the Social Planning and Research Council in BC, and Lynn Langille, Co-ordinator, Health Disparities, Nova Scotia Health Promotion and Protection for providing clarity and support for this project.

I dedicate this paper to the people in my life who have inspired and supported me. First, to two of the strongest women I have known, my grandmothers whom have both passed on and were incredible role models. Secondly to my mother, for her unconditional love, support, guidance, strength, and unwavering belief in me always. Then to my aunts, for setting a wonderful example of what family represents, and for their many prayers. To my sisters for their love, support, sharing in my accomplishments, and the encouragement to keep going. To my girlfriends, thank you for being there through the tears, but most importantly for the laughter! To Shelly. This achievement belongs as much to you as to me. Thank you for your love, commitment, support, patience, understanding, and guidance through this journey. And last but certainly not least, in memory of my father, Clarence J. Jones.

And when great souls die, after a period peace blooms,
slowly and always irregularly. Spaces fill with a kind of
soothing electric vibration. Our senses, restored, never
to be the same, whisper to us. They existed. They existed.
We can be. Be and be better. For they existed.

(Angelou, cited in Hopkins, 2000)

Table of Contents

Approval	ii
Abstract.....	iii
Acknowledgements	iv
Dedication.....	v
Table of Contents	vi
Glossary	vii
List of Figures	viii
Introduction.....	1
Food Security	1
Food Insecurity as a Public Health Issue.....	2
What Determines Food Security?.....	4
Strategies to Address Food Insecurity.....	7
Background.....	8
The Role of Food Costing in Addressing Food Insecurity.....	8
Capacity Building and Food Security	9
Results.....	12
Food Costing.....	12
Food Costing in British Columbia	13
Sampling	14
Data Collection.....	14
Analysis.....	15
Results.....	16
Dissemination.....	16
Evaluation	18
Food Costing in Nova Scotia	18
Sampling	21
Data Collection.....	21
Analysis.....	22
Results.....	22
Dissemination.....	23
Evaluation	23
Discussion	24
The Process: Strengths and Challenges.....	24
Conclusion	31
Critical Reflection	33
References.....	35

Glossary

Food Security	Food security exists when all people, at all times have access to, nutritious, safe, personally acceptable and culturally appropriate foods, produced and distributed in ways that are environmentally sound and socially just.
Food Costing	Food costing helps to monitor income-related food insecurity by estimating the cost and affordability of a basic nutritious diet and allowing comparison to a family's income.
Capacity Building	Capacity building is the process of developing and strengthening the skills, knowledge, abilities, processes and resources of individuals, organizations, communities, and systems necessary for policy change.
Participatory Research	Participatory research involves community partners in decision-making, in data collection and analysis, and in the use of research results to influence policy.

List of Figures

Figure 1. The Determinants of Food Security.....	6
Figure 2. Adapted Food Security Continuum	8
Figure 3. Proposed Nova Scotia Food Costing Model.....	20

Introduction

Food Security

In 1996, Canada, along with 186 other countries attending the World Food Summit, committed to reduce food insecurity by 50% by 2015 (Dietitians of Canada, 2007; Health Canada, 1998, 2006, 2008). At that time, approximately 10% of Canadians were food insecure. The percentage of food insecurity in Canada is essentially the same today, with nearly three million Canadians living in food insecure environments. We have not managed to make a change significant since the 1996 commitment at the World Food Summit (Health Canada, 2006; Public Health Agency of Canada, 2004a).

In British Columbia (BC), approximately 11% of the population experiences food insecurity (Health Canada, 2006). Between 2003 and 2004, food bank use in BC increased by 16%. During that time, 84,000 people, including 26,000 children visited food banks. In 2007, the total number of people using food banks dropped to 77,000 people. However, the number of children increased to nearly 30,000 (Dietitians of Canada, 2008). In BC, households comprised of preschool children, lone parent females, renters, and those living on social assistance experience food insecurity at higher rates (Vancouver Coastal Health, 2008).

In Nova Scotia (NS), the situation is worse with approximately 15% of households experiencing moderate or severe income-related food insecurity in 2004. This

equates to nearly 133,300 households. Over 18,000 citizens of NS utilized a food bank in March 2007. Food insecurity prevalence in NS is higher in lone parent female led households, in families with more than three children, and for families with young children (Nova Scotia Participatory Food Security Projects, 2007).

Food security is one of a variety of socio-economic determinants of health (McIntyre, 2003). As defined by Fairholm (1998), “Food security exists when all people, at all times have access to, nutritious, safe, personally acceptable and culturally appropriate foods, produced and distributed in ways that are environmentally sound and socially just” (p.1). The failure of societies to realize food security results in food insecurity. The experience of food insecurity is progressive. It begins with worry for those purchasing food for themselves and for their families and progresses to worry about lack of income to purchase food, to purchasing poor quality food, and finally to a decrease in the overall amount of food that is purchased (Che & Chen, 2001).

Food Insecurity as a Public Health Issue

The economic burden associated with food insecurity is an area of concern for public health. According to the Chief Public Health Officer’s *Report on the State of the Health in Canada*, “The annual economic burden of unhealthy eating in Canada has been estimated at \$6.6 billion, including direct health-care costs of \$1.3 billion” (Health Canada, 2008, p. 56). People living in food insecure environments are unable to eat a healthy diet, and are therefore vulnerable to nutrition-related chronic conditions such as cardiovascular disease, diabetes, and some types of cancer (Che & Chen, 2001). “The important public health issue is the availability and cost of healthy, nutritious food.

Access to good affordable food makes more difference to what people eat than health education” (Wilkinson & Marmot, 2003, p.26).

Certain populations within Canada are more likely to be food insecure. These populations include people living in low and middle-income brackets, those depending on social assistance, pensions, and disability (Che & Chen, 2001). For many households in Canada, notably mother-led single parent households, lack of financial resources is the fundamental barrier preventing access to a basic nutritious diet. This is supported by Dietitians of Canada (2007) which state, “A common misconception is that information and education are the keys to improving food choices, but the reality is that many low-income individuals live in areas with few grocery stores, limited transportation and higher than average food costs” (p.4).

Food insecurity affects a person’s physical and mental health. People who are food insecure tend to be more vulnerable to illness and lengths of stay in hospitals are increased for those persons as well. Nutrient insufficiency is strongly correlated with food insecurity and these insufficiencies increase a person’s susceptibility to illness. One health effect of food insecurity is obesity- an apparent contradiction-which occurs when people are malnourished, rather than undernourished. Women particularly have been shown to exhibit signs of overweight and obesity while living in food insecure environments (Che & Chen, 2001). Evidence shows that when people are unable to purchase a healthy nutritious diet, cost effective food purchases of more, energy-dense, nutrient poor foods are consumed, contributing to obesity (Dietitians of Canada, 2007).

Children are one of the most vulnerable age groups effected by food insecurity, and are probably the majority of those living in food insecure environments. Children who are food insecure live with increased risk of illness, exhibit poorer overall scores in school and develop fewer supportive networks which are also important for good health (Che & Chen 2001; Ewtushik, 2003; Dietitians of Canada, 2007; Nova Scotia Participatory Food Costing Project, 2007).

This paper will present a brief description of the determinants of food security to provide an understanding of the complex web of factors that work together to address the issue. Current strategies employed to address food insecurity will be introduced. Background on the roles of food costing and capacity building in addressing food insecurity will be provided. The methods section will provide detail on how information was gathered, examples of information sources, and a brief description of the process followed to evaluate the material.

The results section will provide a background of food costing in Canada. Food costing approaches from BC and NS will be presented. Discussion will follow introducing the strengths and challenges of the process and impacts of food costing from each provincial approach. Based on the evaluation of strengths and challenges, a conclusion will be provided. A critical reflection will be offered to finish the paper.

What Determines Food Security?

Income has been recognized as a crucial determinant of health affecting food security (Dietitians of Canada, 2007; Health Canada, 2006; Public Health Agency of Canada, 2004a). A number of other factors interact with income to determine food

security. These factors are situated within the categories of food supply and food access. Food supply determinants provide points of reference necessary in achieving a sustainable food supply. Addressing food access determinants allows individuals and communities, the opportunities, skills, supports, and income to access a nutritious food supply (Nova Scotia Participatory Food Security Project, 2006). Food supply and food access are closely linked.

In both BC and NS, food security is shaped by many systems and structures such as transportation systems, resource management, and community facilities as represented in Figure 1. As aforementioned limited transportation to retail food outlets can be a problem. Resource management would be addressed through producer viability, and quality and quantity of food products. Community facilities are represented in the components of growing, storage, preparation and cooking facilities, processing and infrastructure, as well as in diverse and accessible retail options.

The Determinants of Food Security presents a framework encompassing explicit examples of necessary factors that work together to address food security. The u-shaped pattern allows for ease of movement from one side to the other, while the separation between the two provides an opportunity to view each determinant separately or to choose an indicator under food supply and connect it to a factor under food access.

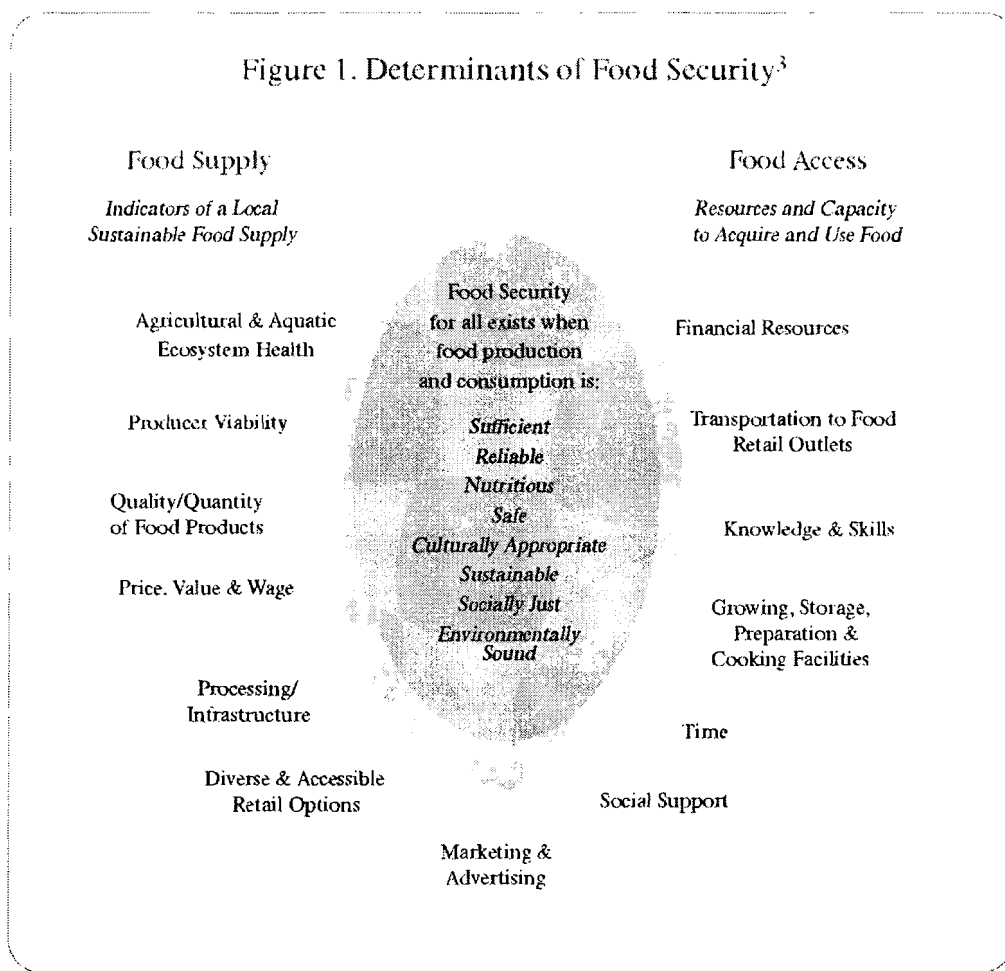
For example, without '*diverse and accessible retail options*' an individual may not have a choice as to the type of food they purchase, as well as the nutrient value of that food. Conversely, without adequate '*financial resources*', an individual lacks necessary income to purchase food of any type.

Figure 1. The Determinants of Food Security

What Determines if Our Food System is Secure?

We often think about food in a very simple way—it is something that we eat when we are hungry. But in reality, the food on your table is part of a complex system of food production, processing, transportation, marketing, purchasing, preparation, consumption and disposal. Every aspect of this food system impacts food security in our province.

Considering the complexity of the food system, it is easy to see that many factors determine food security. Figure 1 shows the determinants of food security and their interrelationships.



Note. Used with permission, Nova Scotia Participatory Food Security Projects (2006, p. 5).

Strategies to Address Food Insecurity

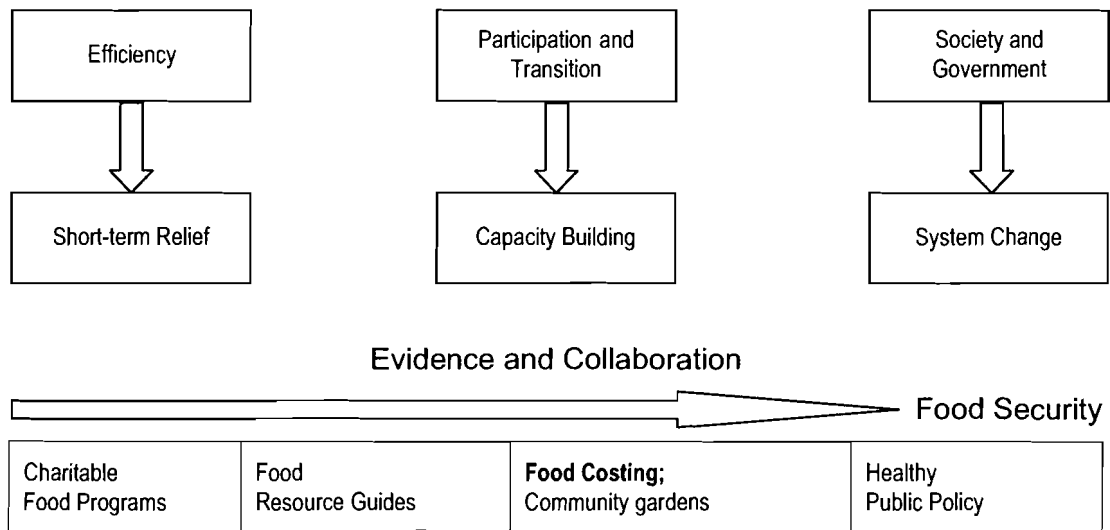
There are three broad types of strategies commonly used to address food insecurity. These strategies are typically organized on a continuum. They are: efficiency strategies, participation and transition strategies, and society and government strategies. Efficiency strategies provide short-term relief such as food banks and soup kitchens and immediate assistance to those in need of food (Community Nutritionists Council of BC, 2004; Cook, 2008; Nova Scotia Nutrition Council, 2008). There have been a variety of these so-called band-aid approaches that provide only short-term solutions and mask the underlying causes of food insecurity.

Participation and transition strategies include individual and community capacity building strategies and work to improve food security and sustainability of food systems. These strategies can be employed at the individual, community, and organizational levels (Community Nutritionists Council of BC, 2004; Cook, 2008; Nova Scotia Nutrition Council, 2008). Evidence generated from food costing would fit into this type of strategy. One goal of participation and transition strategies is to provide communities with knowledge and skills necessary in order to advocate for policies that effect food security. As stated in the Nova Scotia Nutrition Council (2008), “These strategies help improve food security and the sustainability of the food system by building skills and helping people work together for change” (p. 11).

Society and government strategies operate at the system level. System level strategies work to inform and improve policies that support food security.

Multiple strategies at a variety of levels, involving multiple stakeholders will be most effective in addressing the number of food insecure people in Canada (Community Nutritionists Council of BC, 2004). Below is an adaptation of the food security continuum with the addition of the broad strategies listed horizontally at the top of Figure 2.

Figure 2. Adapted Food Security Continuum



Note. Adapted from Houghton, 1998.

Background

The Role of Food Costing in Addressing Food Insecurity

Food costing is one method used to address income related food insecurity. Food costing provides data, which allows comparison of a basic nutritious diet to a family’s or an individual’s income. As stated by the Nova Scotia Participatory Food Security Projects (2007), “Food costing helps to monitor income-related food insecurity by

estimating the cost and affordability of a basic nutritious diet” (p.3). Food costing is conducted annually in BC and NS.

Food costing research in NS has documented that, “. . . both income assistance rates and minimum wage levels continue to contribute to low income circumstances, in which some families cannot afford to purchase a basic nutritious diet” (Nova Scotia Participatory Food Security Projects, 2006, p. 12).

However for many people within BC and NS, sufficient income remains one of the greatest risk factors associated with food security. Food costing works to record the price of a nutritious diet at a variety of locations within each province to determine actual cost of food. Food costing directly acknowledges the influence of income on food security (Nova Scotia Participatory Food Security Projects, 2006).

Capacity Building and Food Security

Capacity building is about strengthening the abilities of individuals, organizations, communities, and systems to plan, develop, implement and maintain healthy communities. When community members partner to identify and implement solutions for issues effecting the, capacity is built (Hawe, Noort, King, & Jordens, 1997).

When those most affected by food insecurity are included in the planning, development, implementation, dissemination, and evaluation of an approach to tackle the issue, capacity is built at multiple levels. “Building capacity at the personal and community level is often aimed at influencing change at the systems level. Building system capacity is seen as the ability of an entire system to monitor and address public

problems” (Devon Dodd & Hébert Boyd, 2000, p.7). Participatory food costing is advantageous as it works to build capacity to address food security, therefore, brings a province closer to achieving food security.

Method

Sources of data for this project were taken from a variety of documents. These included: national and provincial reports on annual food costing, as well as other reports such as the Public Health Officer of Canada’s first annual report, *Report on the State of Public Health In Canada* (Health Canada, 2008). Articles were obtained from peer-reviewed journals retrieved from the Simon Fraser University (SFU) library websites. SFU Library Databases, located in the *Journals, articles, and databases* section on the website provided a mechanism to search interdisciplinary databases using the following search terms: food security, food costing, capacity building, and participatory research.

National and provincial websites such as Health Canada, Community Nutritionists of BC, and the Atlantic Health Promotion Research Centre provided information at the system, organizational, and community levels. Additional gray literature included the *W.K. Kellogg Evaluation Handbook*, the *Healthy Eating Nova Scotia (HENS) Strategy*, and the *Thought About Food? Understanding the Relationship Between Public Policy and Food Security in Nova Scotia: A Background Paper and Policy Lens*, from Nova Scotia.

Data sources were reviewed for background and evidence on food insecurity, health issues associated with food insecurity, food costing, and capacity building. After reviewing the BC and NS approaches to food costing, elements within the approaches

were assessed on strengths and challenges. Strengths and challenges were evaluated based on ease of implementation, sustainability, effects on policy, and capacity building to address food security. In order to clarify each approach, and the assessment of strengths and challenges, people involved in food costing from both provinces were contacted.

Telephone interviews took place with Andrea Ottem, Registered Dietician from BC, and Lynn Langille, Co-ordinator, Health Disparities with NS Health Promotion and Protection. Email communication with Janice MacDonald, Regional Executive Director, Dietitians of Canada, BC was also part of the research. Personal knowledge about participatory food costing was acquired while developing the logic model framework for the Participatory Food Costing Projects, as an intern with NS Health Promotion and Protection from May to July 2008.

Results

Food Costing

The federal government began food costing in 1974 and continued until 1998. “Food costing is a way to measure the cost of basic healthy eating using a survey tool that represents current nutrition recommendations and national eating patterns” (Atlantic Health Promotion Research Centre, 2006, p. 1). In 1996, the *National Nutritious Food Basket* (NNFB) was developed and included foods selected from among those frequently purchased by Canadians at that time, and were based on nutrient value. The food basket is neither an ideal diet nor the least expensive and does not include take-out or restaurant eating. Using results of food costing to determine the affordability of food is considered an appropriate use of the NNFB (Atlantic Health Promotion Research Centre, 2006, M. Broughton, personal communication, December 8, 2008).

Both BC and NS employ the NNFB as the tool to guide food costing. Foods within the basket represent commonly purchased foods acquired from *Statistics Canada’s Survey of Family Food Expenditure in Canada* conducted in 1996. The NNFB consists of 66 foods commonly consumed by Canadians, and is consistent with recommendations from Canada’s Food Guide. Foods within the basket provide an adequate amount of nutrients that can be measured for both genders and over 20 age groups. Food costing takes place in grocery stores, which provide a variety of items within the basket (Atlantic Health Promotion Research Centre, 2006; Human Resources and Social Development

Canada 2008; Lawn, 1998). The NNFB allows those carrying out food costing to collect data in order to calculate approximate costs of eating a basic nutritious diet for a reference family of four, and other family sizes and types (Lawn, 1998). The tool is presently being revised based on the new Eating Well with Canada's Food Guide and what Canadians are eating now. It should be available in 2009. (M. Broughton, personal communication, December 8, 2008).

Food Costing in British Columbia

The launch of food costing in BC was in response to the ongoing issue of those living on low income struggling to purchase a nutritious diet (Dietitians of Canada, 2002; Food Costing Working Group of the Nova Scotia Participatory Food Security Project, 2006). In 1997, the Food Security and Nutrition Advocacy Committee addressed the issue of food insecurity in BC with the report titled, *Feed Our Future—Secure Our Health*. This report was supported by dietitians and nutritionists in BC, and motivated the Community Nutritionists Council of BC to launch food costing in 2000. At that time, eight partners supported food costing in the province (Dietitians of Canada, 2002).

The number of partners in BC has since grown to over 20 and includes those from public health branches, non-governmental organizations, and community coalitions (Dietitians of Canada, 2008). Dietitians and public health nutritionists conduct food costing in BC. Dietetic interns, nutritionist assistants, and retired dietitians also volunteer time to conduct food costing (A. Ottem, personal communication, November 14, 2008; Dietitians of Canada, 2008; Food Costing Working Group of the Nova Scotia Participatory Food Security Projects, 2006).

“In 2006, the Provincial Health Services Authority provided support to minimize errors in data collection and analysis process and made recommendations to strengthen data collection methodology” (Dietitians of Canada, 2008, p.16). It was recommended that customer counts take place in addition to food costing. According to the Food Market Institute (2008), “customer count is the number of customer checkout transactions for a day or week” (p.1). Customer counts were completed based on the assumption that market share may differ by location, although food costs would be the same. Upon statistical analysis it was found that there was no significant difference in cost of food when customer counts were included. Although customer counts did not influence the data, collection and analysis of the data has been strengthened with the aid from the Provincial Health Services Authority (A. Ottem, personal communication, November 14, 2008; Dietitians of Canada, 2008).

Sampling

In BC, convenience sampling was the methodology used to assign grocery stores throughout the province from 2000-2006. In 2007, the more rigorous approach of random sampling was employed. Using a random list, stores were stratified by health regions. The total number of stores in which data were collected was 128 (Dietitians of Canada, 2008).

Data Collection

Food costing begins the last Sunday in May each year in BC. Data were collected by, dieticians, nutritionists, and volunteers. Customer counts were also conducted. These counts took place on the same day of the week over the same time-period throughout the

province. In BC, teleconferences were used across the province to orient dietitians and nutritionists to the sampling process, customer counts, and pricing. Customer counts were included along with food costing in stores when more than one in a particular chain was included in a sample within the same municipality. Those collecting data stood at the door of the grocery store and used a standard counting system to record customer counts. However, due to lack of human resources, these counts were unable to be completed at all stores. All collected data is forwarded to a principle location to be collated (A. Ottem, personal communication, November 14, 2008; Dietitians of Canada, 2008).

Analysis

Data were compiled on a healthy nutritious food basket as well as on market share and these measures were released in the report. Through the use of family scenarios, the cost of the food basket was compared to available income in a variety of situations. Family scenarios provide a template in which the cost of a basic nutritious diet can be calculated along with other living expenses based on a variety of family types. For example, one family may consist of two parents and two children, whereas another may be a single female led family with two children. Based on the age and gender of individuals in the family scenarios, costs are increased or decreased through the use of a regulated scale (Dietitians of Canada, 2007; Nova Scotia Participatory Food Security Projects, 2007). The following results represent the findings based on the family scenarios.

Results

Results from the 2007 food costing in BC showed that there has been a significant increase of approximately 10% in the average cost of the NNFB from 2006. Additionally, results showed that the NNFB cost varies between health authorities as well as within them. For example, the highest cost of the NNFB is within Vancouver Coastal Health and the lowest is in Interior Health with a difference of \$116.00. Within regions, communities that are smaller and isolated have higher prices than other communities in the same health region. Results showed that a family of four earning an average income spends 17% of total income on a nutritious diet, while the same family on income assistance, spends 42% of their total income in order to purchase a basic nutritious diet.

Costs associated with housing, exacerbate the above costs of available income for food when 30% or more of household income is required for shelter. Findings from the 2007 food costing in BC show that spending over 30% of their income on shelter is an issue for families living on income assistance, single female parent led households, single-males on disability, and those families living on minimum wage (Dietitians of Canada, 2008).

Dissemination

In BC an annual report entitled, *The Cost of Eating BC: 2007*, has been produced in partnership with the Dietitians of Canada (2008), BC region, and the Community Nutritionists Council of BC since 2000. “The purpose of the report is to demonstrate that those living on a low income, especially those on income assistance do not have enough money to purchase enough healthy food” (Dietitians of Canada, 2008, p.16). Members of

the aforementioned associations, along with representatives from the health regions within the province have come together to form the Cost of Eating in BC Committee (Dietitians of Canada, 2008).

This Committee prepares the report each year. The report is examined by the multiple partners which endorse food costing, and then released. The Committee works strategically to plan the date, location, communication plan, and dissemination plan prior to release. Dietitians of Canada issues a release to all media in BC. Committee members support the release of the report by speaking to their local media representatives. The report is disseminated to the multiple partners and can be found as well on the Dietitians of Canada website (2008).

Within the report recommendations are provided for individuals and policy makers regarding steps to be taken in order to promote policies that have direct and indirect effects on food insecurity. Each Minister within the province receives a copy of the report along with a meeting request. Over the years, individuals from the Cost of Eating in BC Committee have met with Ministers, and as well have had group meetings involving Ministers and their staff (Dietitians of Canada, 2008).

Data is utilized throughout the province by a variety of community groups, dietitians, and nurses (Dietitians of Canada, 2008; Food Costing Working Group of the Nova Scotia Participatory Food Security Projects, 2006). There will be no report released within 2008 due to the ongoing revision of the current NNFB. Food costing will begin again with the availability of the updated version (Dietitians of Canada, 2008).

Evaluation

To date there has been no evaluation of the food costing initiative in BC. Community nutritionists are working to monitor “existing surveillance data related to nutritional health, support the collection of data, and work with communities” (Community Nutritionists Council of BC, 2004, p. 56), but this does not support the monitoring or evaluation of the food costing initiative. An impact evaluation plan is currently in place with the probability of release in 2008-2009 (Dietitians of Canada, 2008).

Food Costing in Nova Scotia

The purpose of food costing in NS is “To gather credible, current, and relevant data on the cost of a basic nutritious diet in Nova Scotia through participatory approaches” (Food Costing Working Group of the Nova Scotia Participatory Food Security Projects, 2006, p. 4). Initial food costing in NS, was conducted by the Nova Scotia Nutrition Council (NSNC). The Council’s report, *How do the poor afford to eat?* (Nova Scotia Nutrition Council, 1998) provided evidence that social assistance rates in the province were inadequate to provide a healthy diet. This resulted in substantial media interest and modest increases in social assistance rates.

Since 2000, the Nova Scotia Participatory Food Security Projects has been involved in research focused on food security. The Nova Scotia Participatory Food Security Projects is a collaborative network of partners consisting of researchers, public sector employees, non-governmental organizations, family resource centres and projects (FRC/Ps), and community members. From this collaborative network, a Food Costing

Working Group has been formed to assist in supporting the projects (Food Costing Working Group of the Nova Scotia Participatory Food Security Projects, 2006).

Participatory food costing in NS began in 2002 and was initially funded by Health Canada. “The aim of the Nova Scotia participatory Food Costing Projects is to gather evidence that can be used to inform policy and build capacity for policy change to support food security in the province” (Nova Scotia Participatory Food Security Projects, 2007, p. 14). In 2004, the Nova Scotia Department of Health Promotion and Protection began funding food costing in NS (Nova Scotia Participatory Food Security Projects, 2007). In 2005, food costing was framed in terms of chronic disease prevention in NS and was listed as one of four priority areas in the Healthy Eating Nova Scotia (HENS) Strategy (Healthy Eating Action Group of the Nova Scotia Alliance for Healthy Eating and Physical Activity, 2005; L, Langille, personal communication, November 11, 2008).

Funding from NS Health Promotion and Protection allowed the Nova Scotia Participatory Food Security Projects to complete a national scan of food costing initiatives in order to assess strong points and challenges. Data acquired from 20 cross-Canada key informant interviews, NS provincial stakeholder consultations, along with past experience within NS of food costing, were collated to generate the current food costing model used in NS. The *Proposed Nova Scotia Food Costing Model* is presented in Figure 3.

Figure 3. Proposed Nova Scotia Food Costing Model

Proposed Nova Scotia Food Costing Model

Values and Principles

- Food security for all Nova Scotians.
- Capacity building, social inclusion, collaboration, and community mobilization through participatory approaches to food costing.

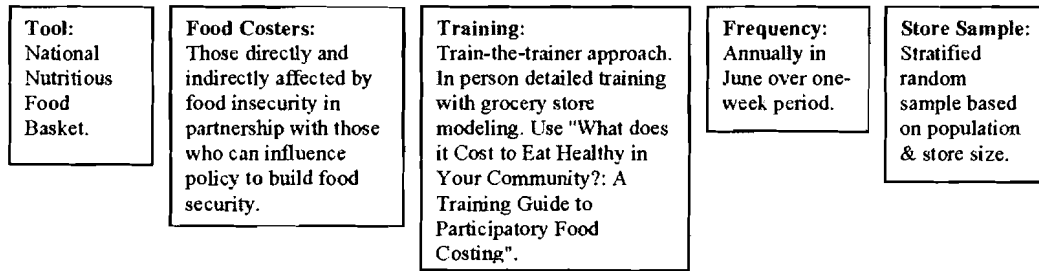
Purpose

- To gather credible, current, and relevant data on the cost of a basic nutritious diet in Nova Scotia through participatory approaches.

Objectives of Food Costing

1. To engage, mobilize, and build capacity to address the issue of food insecurity and inform healthy public policy at both individual and system levels.
2. To use quantitative data to augment qualitative data to confirm the reality of food insecurity.
3. To foster knowledge development for individuals and organizations on the cost of food and the factors that affect the cost of food.
4. To compare the cost and affordability of nutritious food throughout regions of the province and across the country over time.

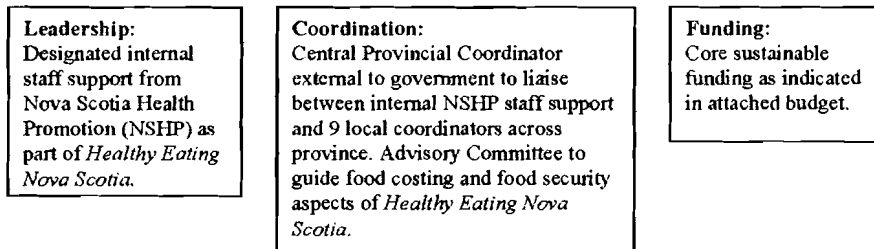
Methods for Food Costing



Data Analysis & Use of Food Costing Results

Timely analysis (using *Excel* workbook template adapted from Ontario food costing spreadsheet) and reporting of food costs and affordability assessments to internal and external stakeholders. Support for local and provincial action planning and dissemination.

Infrastructure & Resources for Food Costing



Note. Used with permission, Food Costing Working Group of the Nova Scotia Participatory Food Security Projects (2006, p. 4).

Sampling

NS uses a stratified random sample for food costing. This random sample produces 46 stores in which food costing is conducted. The stores are found in a variety of communities within the province and encompass all of Nova Scotia's nine District Health Authorities (Nova Scotia Participatory Food Security Projects, 2007).

Data Collection

FRC/P's staff and community members are trained by the provincial coordinator of the NS food costing participatory projects to conduct food costing. A training guide titled, *What Does it Cost to Eat Healthy in Your Community?: A Training Guide to Participatory Food Costing* (Atlantic Health Promotion Research Centre, 2006), was one of the pieces of work generated by the NS participatory food costing projects. The training guide was pilot tested once prior to implementation. Food costing training was initially provided to 10 FRC/P's employees throughout the province. These employees then worked in partnership with the provincial coordinator to facilitate annual training in their communities. Training takes place in May of each year. Community members are trained during a series of five regional training sessions provided throughout the province (Atlantic Health Promotion Research Centre, 2006).

The training consists of a full day workshop. The training guide provides an explanation of food costing, the benefits of food costing, how to conduct food costing, as well as how and what the data collected could be used for in order to address food security. Procedural guidelines for food costing in Ontario provided a foundation for the training guide (Atlantic Health Promotion Research Centre, 2006). Practical application

of the food costing tools in local settings is included in the workshop as well as the skills needed to calculate the cost of a nutritious food basket. Public health nutritionists and dietetic interns interested in providing support for food costers and food costing within their areas of the province, attend the training workshops as well (Atlantic Health Promotion Research Centre, 2006).

Food costers work in pairs to collect data. Overall, 43 people, from 15 different communities in Nova Scotia took part in the 2007 food costing. All food costers received honoraria for their time and efforts, and transportation and childcare were provided as well. Data collection takes place during the same week in June each year (Nova Scotia Participatory Food Security Project, 2007).

Analysis

In NS, initial food costing surveys are reviewed and checked by project staff and student nutritionists from Mount Saint Vincent University. Data are then entered into a spreadsheet. Accuracy of data entry is checked by staff and students prior to analysis. This is supported by a statistician (Nova Scotia Participatory Food Security Projects 2007).

Results

As in BC, the 2007 NS results found that the cost of the NNFB varies between and within regions. The average monthly cost of food in rural grocery stores was significantly higher than those in urban locations. The difference noted was over \$30.00. In NS, a family of four with an average income spends approximately 16% on a healthy

diet, whereas a family of four on income assistance would have to spend 33% of their income in order to purchase a healthy diet (Nova Scotia Participatory Food Security Projects, 2007).

Dissemination

NS prepares an annual report, which is reviewed prior to dissemination by, the Nova Scotia Food Security Network and the Nova Scotia Food Costing Working Group. Results are also disseminated to all stakeholders who then disseminate the information through a variety of mechanisms throughout the province.

Evaluation

The NSNCS and the NS FRC/Ps developed a formative evaluation, which was conducted after the 2002 food costing. The objective of the evaluation was to acquire data which would represent those involved in the areas of “preparedness . . . , challenges and facilitators . . . , elements of participatory food costing approaches, and benefits of being involved in the project” (Johnson & Williams, 2005, p. 4). Methods employed were focus groups with food costers and interviews with food coster supporters. Space was provided by the FRC/Ps. Evaluation results determined that those involved felt prepared and supported, were able to measure an increase in personal knowledge and skills, as well as able to express underlying conditions affecting food security such as income, and of the value in using food costing data to shift policies (Johnson & Williams, 2005).

Nova Scotia is currently in the developmental stages of a participatory evaluation framework to assess the participatory food costing projects. The logic model has been

completed and evaluation indicators, questions, and methodologies are now being developed. Participatory evaluation “creates a more egalitarian process, where the evaluator’s perspective is given no more priority than other stakeholders, including program participants; and making the evaluation process and its results relevant and useful to stakeholders for future actions” (W.K. Kellogg Foundation, 2004, p. 11).

Discussion

The Process: Strengths and Challenges

One of BC’s strengths is the use of trained individuals whose area of expertise is nutrition. Registered dietitians are acknowledged professionals uniquely trained to advise on diet, food and nutrition. Dietitians influence policy development; direct nutrition programs; manage quality food services; and provide information and counsel that allows clients, including the consumer, to make informed decisions about their nutrition and food choice (Dietitians of Canada, 2008b). Another strength for BC is that planning happens within the public health system and food costing is an aspect of public health work initiated and implemented by Dietitians and Nutritionists (Community Nutritionists Council of BC, 2004). This has led to position dietitians in BC as leaders in food security (J. MacDonald, personal communication, November 13, 2008).

Conversely, NS has the challenge of utilizing the participatory approach, which is a more resource intensive initiative with more people involved and a greater time commitment. From the initial stages of planning, through to and including evaluation,

community members and multiple stakeholders are included and participate in co-learning and shared-decision making. This could, also be viewed as a strength as this approach works to build capacity by including community members as equal partners in the process. Over time, a cadre of trained food costers is developed, and those working at the system level begin to understand different “ways of working” which are necessary for community development (L. Langille, personal communication, November 11, 2008).

Another strength of the BC method has been in the consistent linking of food security with poverty since the release of their first report. BC introduces poverty on the first page of the 2007 report. Additionally, Janice MacDonald, Regional Executive Director, Dietitians of Canada, BC region, has been successful in engaging governments and raising awareness at the system level as well (A. Ottem, personal communication, November 14, 2008). This connection between the dietitians that participate in food costing, with those who make policy has the potential for food costing data to be utilized to inform policies that address poverty reduction, thus, positively effecting food security. NS addresses the issue of poverty within their reports but does not present the link as explicitly as BC.

NS has demonstrated strength as far as reach. Due to the participatory nature of the project, data is disseminated across multiple sectors and a variety of levels upon release of the report. Results have also been presented in journal articles produced by researchers involved in the projects.

A challenge for both provinces is funding. Dietitians of Canada provide some funding for food costing in BC. However, there is no plan for sustainability in place at

this time (J. MacDonald, personal communication, November 13, 2008). NS is funded provincially by Health Promotion and Protection and food costing is one of four priority areas in the HENS strategy (Healthy Eating Action Group of the Nova Scotia Alliance for Healthy Eating and Physical Activity, 2005). Any change in federal or provincial government for either province could initiate action to stop food costing.

A strength for both provinces is the existing network connecting community organizations and the public health sector where policy is made. This would depend on the values of the policy makers. If those developing policies valued only 'professional' opinion, the BC method would work best. However, if community development was a core value within the public health sector, the participatory approach in NS may have an advantage. Both approaches have official routes through the system to inform policy makers. BC's route is through the Dietitians and Nutritionists to the policy makers, and NS through the inclusion within the HENS strategy that places food costing as a priority within the public sector.

A challenge for both provinces would be the lack of human resources. BC experienced a lack of human resources last year, which prevented the province from completing customer counts in all stores. NS is at risk of experiencing a lack of human resources as community members trained to food cost may not be able to fulfil that role due to other commitments.

Another strength for NS is evaluation. The Nova Scotia Participatory Research Projects has already completed one formative evaluation in 2002. The completion of the evaluation framework currently in progress will allow NS to evaluate capacity building,

partnerships and participation, and knowledge sharing and uptake. However, due to the participatory approach the NS evaluation may not be completed in a timely fashion. Multiple methods will be warranted in order to triangulate the data, which means multiple training for those who want to be involved in the implementation of the evaluation. Experience from the 2002 evaluation may be helpful, but due to the scope of the evaluation framework in place, accuracy of data collection as well as speed could be a challenge for NS. This too will drive the cost of the evaluation.

The cost of evaluation could be a challenge for both BC and NS. If funds were not allocated during the planning stages of these programs, there may not be sufficient financial transfers within the federal budget of the Dietitians of Canada, or the provincial budget in NS to warrant an evaluation in either province. Additionally, the challenge for BC is to initiate ongoing provincial surveillance and monitoring program (J. MacDonald, personal communication, November 13, 2008). The development of an impact evaluation is currently in place, but it remains to be seen when, how, by whom, and if there will be funding to support implementation.

The Impact: Strengths and Challenges

Results of food costing are used to inform policies that address the underlying issues that work directly and indirectly to affect food security. Both the BC and NS approaches work toward addressing poverty and low income to positively affect food security. Results from both provinces showed that those living on minimum wage and on income assistance are unable to afford a nutritious diet. These findings support the importance of addressing poverty and increasing incomes in order to improve food

security. Data from food costing in each province has been used to address the underlying issue of income at the system level.

In BC, food costing data from 2005 were used in the Provincial Health Officer's report of that same year titled, *Food, Health and Well-Being in British Columbia* (Dietitians of Canada, 2008; British Columbia Provincial Health Officer, 2006). Uptake of this information could work to indirectly and directly effect strategies and policies related to increasing income.

In NS food costing data were included in a proposal to the "Minimum Wage Review Committee" within the Department of Environment and Labour, which resulted in incremental increases to minimum wages in the province. Income assistance rates have seen an increase over the last five years in NS, and the food costing data is one of a number of influences in this increase (Nova Scotia Participatory Food Security Project, 2007).

In BC, child poverty is mentioned in all of the food costing reports. This mention is critical in order to emphasize the links between poverty and food security. BC provides a persuasive connection between food insecurity and poverty. As stated in the first sentence of their latest report, "Yes. Despite a booming economy and record government surpluses, BC has a poverty problem" (p. 4). Data from food costing has been used by the Social Planning and Research Council as evidence that those living on income assistance in BC are unable to afford a nutritious diet (R. Newton, personal communication, December 9, 2008). BC has been successful in creating public awareness

about the issue of food security and poverty through media attention (A. Ottem, personal communication, November 14, 2008).

This theme weaves throughout the report with discussion on the lack of increase in support and shelter allowance for families in the province. Examples of initiatives taking place in other provinces to address poverty are presented. Individual and government recommendations are also provided (Dietitians of Canada, 2008).

In NS, participatory food costing has been significant in promoting food security to be included as one of four priorities in HENS (Food Costing Working Group of the Nova Scotia Participatory Food Security Projects, 2006). Participatory approaches aim to support active involvement of those most affected or potentially impacted, by an issue. To gain community member participants, the NS approach worked to recognize barriers for people most affected by food insecurity and to provide necessary resources to facilitate inclusion of these community members. This permitted them to participate in food costing (L. Langille, personal communication, November 11, 2008).

This approach provides those involved with skills and knowledge to address policies that influence food insecurity beyond the public health acts. For example, partners work together to consider effective ways to shift policies within the economic and social systems, as well as to shift municipal laws that directly and indirectly affect food insecurity. The participatory approach also provides learning on ways in which the government system can work with civil society (L. Langille, personal communication, November 11, 2008).

Researchers and community members need local data to monitor and advocate for food security. Government policy makers need relevant data for evidence-based decision-making. Methods used in both provinces provide this evidence. However, participatory food costing aids in building capacity at multiple levels-among individuals, communities, organizations, and systems-necessary for policy change to build food security.

Current recommendations to individuals in *The Cost of Eating in BC 2007* report, urging community members to “learn more about poverty issues and take action” are not enough to build capacity at the individual and community levels in order to address food security (Dietitians of Canada, 2008). Although capacity building is not a direct objective of food costing in BC as seen in NS, capacity is being built at the community level. Data from food costing has been used to support a collaborative initiative between dietitians, social planners, and community members on the North Shore with the *Edible Gardens* project. The aim of the project is to “provide information and education to the community, where knowledge and skills are built around ecological food gardening, healthy eating, and food preservation (Edible Garden Project, 2008; R. Newton, personal communication, December 9, 2008). As stated by Dietitians of Canada (2002), “Government, at all levels, must partner with community organizations and those impacted by food insecurity, to eradicate poverty and inequality” (p.4).

Food costing is one of numerous initiatives by organizations, community groups, and individuals to increase food security in BC and NS. If food costing were to be stopped in BC and NS, both provinces have initiatives under way that could potentially take on food costing along with their other programs currently in place. The BC Ministry of Health funds BC Healthy Communities and capacity building is included in the

strategic plan. This initiative is provincially funded and is grounded in building capacity to address the determinants of health. Regional facilitators are currently in place in several areas in BC (BC Healthy Communities, 2006). Linking with this initiative would potentially provide a more sustainable future for food costing in BC.

In NS, the Nova Scotia Food Security Network could incorporate food costing within current initiatives taking place in the province around food security. Additionally, individuals and communities in NS have the skills, knowledge and community support necessary to continue. Community leaders have been developed within the FRC/Ps and food costers have been trained. Due to this, the participatory approach is now an element embedded within the system and could be maintained by community members if necessary (L. Langille, personal communication, November 11, 2008).

“It is recognized that capacity building is needed at all levels to ‘bridge the gap’ between communities and public policy, with healthy public policy often being an outcome of strengthened capacities” (Devon Dodd & Hébert Boyd, 2000; Restrepo, 2000). Therefore it is imperative that measures are taken to build capacity at the individual, community, and system levels in order to address the issue of food insecurity.

Conclusion

Food security is a basic human right. In order to successfully build capacity to address food security, measures must be taken to incorporate capacity building at multiple levels and sectors. These measures will build capacity to address the underlying determinants of food security.

Ongoing commitment to completing and implementing the evaluation frameworks for both provinces is recommended. It will only be through the development and implementation of comprehensive evaluation methods that capacity building will be concretely measured and various approaches to food costing more rigorously compared. Evaluation will provide stakeholders and community partners with reliable information from which to enhance, improve, and/or adapt the current food costing models employed in BC and NS. These data will initiate and support new strategies and policies, which will directly and indirectly affect the determinants of food security, particularly the food access determinant of income.

Through the use of the NNFB, food costing is a valuable method to assess the overall cost of a basic nutritious diet. However, alone, the method is lacking in the area of capacity building. Research has shown that participatory tools and processes are an effective way to build individual, organizational, community, and systems capacity to address food insecurity and the policies that need changing (O'Neill, Pederson, Dupere, & Rootman, 2007). The participatory approach to food costing employed by NS builds greater capacity to address food security through a variety of mechanisms and measures.

Food security will be achieved when capacity is built at all levels. It will be then that the underlying issues of food security will be addressed. Addressing the underlying issues will then lead to a reduction in the prevalence of food insecure people in both BC and NS. We are far from reaching the 50% reduction goal by 2015 set in 1996. However, through initiatives like the Nova Scotia participatory food costing method, capacity building will occur to address food security for individuals and communities, and achieve both national and international commitments to food security for all citizens.

Critical Reflection

The process of comparing food costing methods in BC and NS has left me wondering how food costing can be better used to move the issue of food security forward, or, if annual food costing is the best method at this time to move the issue forward? BC and NS have been conducting food costing for approximately two decades. Data has been used and there has been some success in the increase of minimum wage and social assistance rates. However, there remains a high percent of British Columbians and Nova Scotians, particularly children, who remain food insecure.

I think it is time to explore the possibility of adapting the current method of annual food costing. Food costing is just one piece of the puzzle. Perhaps those involved in food costing might consider conducting food costing every other year. On the alternate year, specific policies that directly or indirectly effect food security could be targeted. Food costing data could be utilized to advocate for a shift or change in policy. Advocacy has proven to be a successful method to initiate action at the policy level.

Trained leaders in food costing already exist in Nova Scotia and could step into these advocacy roles. Why not use current supports in place for food costing as supports for advocates and coalitions? Shifting the focus from food costing to advocacy on alternate years would continue to build capacity among community members. This change may also draw interest from other community members that may be interested in this type of role. This approach could be implemented in BC as well among the many dieticians, nutritionists, and volunteers conducting food costing.

The principles of a participatory approach should be the foundation for this endeavour. Advocates and coalitions could collaborate across sectors and at multiple levels with current initiatives in place working to address food security. Collectively, their voices may be heard at the policy level to effect legislation of new or existing economic and social policies such as: an increase in minimum wage, affordable housing, accessible and federally funded child care, and medical and financial supports to assist in transitioning people from income assistance to the workforce.

Another option might be to frame food security under poverty. Poverty reduction is currently a fervent topic across the country. Food costing would integrate effectively under this umbrella as income is so closely linked to the ability to purchase a basic healthy diet. Integrating food costing within poverty reduction might increase the value of food security at the policy level.

It is my hope that this critical reflection initiates conversation among a variety of public health practitioners, researchers, community members, and policy makers which will then lead to action to continue working in a participatory manner to build capacity at the individual, community, and system levels, thereby empowering people at all levels to advocate to shift or change policies in order to effectively address food security; resulting in a decrease in the number of food insecure individuals in BC, NS, and across the nation.

References

- Atlantic Health Promotion Research Centre. (2003, September). *The struggle to feed our families in Nova Scotia: What does food costing tell us?* Retrieved November 4, 2008, from www.ahprc.dal.ca/WhatDoesFoodCostingTellUs.pdf
- Atlantic Health Promotion Research Centre. (2006). *What does it cost to eat healthy in your community?: A training guide to participatory food costing.* Retrieved October 9, 2008, from www.ahprc.dal.ca/publications/Food%20Costing%20Training%20Guide.pdf
- BC Healthy Communities. (2006). *Building capacity: Building healthy community.* Retrieved November 23, 2008, from <http://www.bchealthycommunities.ca/Images/PDFs/Capacity%20Building%20Background%20April%202006.pdf>
- British Columbia Provincial Health Officer. (2006). *Food, health and well-being in British Columbia: Provincial health officer's annual report 2005.* Victoria, British Columbia, Canada: Ministry of Health.
- Che, J., & Chen, J. (2001). *Food insecurity in Canadian households.* Retrieved May 5, 2008, from www.statcan.ca/english/studies/82-003/feature/hrar2001012004s0a01.pdf
- Community Nutritionists Council of BC. (2004). *Making the connection-food security and public health.* Vancouver, British Columbia, Canada: Author.
- Cook, B. (2008). *Food security issues in a public health context.* Antigonish, Nova Scotia, Canada: National Collaborating Centre for the Determinants of Health. (Synthesis paper)
- Devon Dodd, J., & Hébert Boyd, M. (2000). *Capacity building: Linking community experience to public policy.* Halifax, Nova Scotia, Canada: Population and Public Health Branch Atlantic Region.
- Dietitians of Canada. (2002, October). *The cost of eating in BC: The challenge of feeding a family on a low income.* Retrieved September 18, 2008, from http://www.dietitians.ca/news/downloads/cost_of_eating_in_BC_final_2002.pdf
- Dietitians of Canada. (2008a). *The cost of eating in BC: 2007.* Retrieved September 18, 2008, from <http://www.dietitians.ca/resources/resourcesearch.asp?fn=view&contentid=1944>
- Dietitians of Canada. (2008b). *What does a dietitian do?* Retrieved October 15, 2008, from http://www.dietitians.ca/public/content/career_in_nutrition/what_does_a_dietitian_do.asp

- Edible Garden Project (2008). *About the Edible Garden Project*. Retrieved December 9, 2008, from http://www.ediblegardenproject.com/contact_us.htm
- Ewtushik, M. (2003). *The cost of eating in Newfoundland and Labrador 2003*. Retrieved October 1, 2008, from <http://www.nlasw.ca/news/news.htm>
- Fairholm, J. (1998). *Urban agriculture and food security initiatives in Canada: A survey of Canadian non-governmental organizations*. Retrieved October 1, 2008, from https://idl-bnc.idrc.ca/dspace/bitstream/123456789/8568/13/rep25sec2_e.pdf
- Food Costing Working Group of the Nova Scotia Participatory Food Security Projects. (2006). *Working together for ongoing food costing and policy solutions to build food security: A proposed model of ongoing food costing in Nova Scotia*. Halifax, Nova Scotia, Canada: Atlantic Health Promotion Research Centre.
- Food Market Institute. (2008). *Language of food industry: Glossary of super market terms*. Retrieved November 5, 2008, from http://www.fmi.org/facts_figs/glossary_search.cfm?search=Yes&letter=C
- Health Canada. (1998). *Canada's action plan for food security (1998)*. Ottawa, Ontario, Canada: Author.
- Health Canada. (2004). *Food and nutrition: Part 2: Why monitor food insecurity in Canada?* Retrieved October 15, 2008, from http://www.hc-sc.gc.ca/fn-an/nutrition/pol/food_sec_entire-sec_aliments_entier-03-eng.php
- Health Canada. (2006). *Canadian Community Health Survey, Cycle 2.2, Nutrition (2004): A guide to accessing and interpreting the data*. Retrieved September 30, 2008, from http://www.hc-sc.gc.ca/fn-an/surveill/nutrition/commun/cchs_guide_esc-eng.php
- Health Canada. (2008). *Report on the state of public health in Canada 2008*. Retrieved September 30, 2008, from www.phac-aspc.gc.ca/publicat/2008/cpho-aspc/index-eng.php
- Healthy Eating Action Group of the Nova Scotia Alliance for Healthy Eating and Physical Activity. (2005). *Healthy eating Nova Scotia*. Halifax, Nova Scotia, Canada: Nova Scotia Health Promotion and Protection.
- Hopkins, R. (2000, October). *Ailey, Baldwin, Floyd, Killens, and Mayfield: Maya Angelou, from her collection, "I shall not be moved"*. Retrieved December 10, 2008, from <http://www.uta.fi/~hopkins/WOODY/maya.html>
- Houghton, J. (1998). *The dietitians role in British Columbian's Food Security Movement. Dietitians of Canada Members in Action, November, 1-2.*

- Human Resources and Social Development Canada. (2008). *Constructing the revised market basket measure: April 2002*. Retrieved November 2, 2008, from <http://www.hrsdc.gc.ca/en/cs/sp/sdc/pkrf/publications/research/2002-002379/page04.shtml>
- Johnson, C., & Williams, P. (2005). *The value of participatory food costing: Views of the participants and support people, post spring 2002 food costing*. Halifax, Nova Scotia, Canada: Author. (Report prepared on behalf of The Atlantic Health Promotion Research Centre, Nova Scotia Family Resource Centres/Projects (funded by the Canada Prenatal Nutrition Program & Community Action Program for Children), Nova Scotia Nutrition Council)
- Lawn, J. (1998). *National nutritious food basket*. Ottawa, Ontario, Canada: Health Canada.
- McIntyre, L. (2003). Food security. More than a determinant of health. *Policy Options, March*, 46-51.
- Nova Scotia Nutrition Council and Atlantic Health Promotion Research Centre. (2006, June). *Building food security in Nova Scotia through participatory food costing: 2004/05 food costing update*. Retrieved November 23, 2008, from <http://www.health-in-action.org/library/pdf/News/Features/Cost%20of%20Eating%20in%20NS.pdf>
- Nova Scotia Nutrition Council. (2008a). *Advocacy toolkit on food security*. Retrieved November 23, 2008, from http://www.nsnrc.ca/doc/advocacy_document%20final.pdf
- Nova Scotia Nutrition Council. (1998b, April). *How do the poor afford to eat?: An examination of social assistance food rates in Nova Scotia*. Retrieved October 2, 2008, from www.ahprc.dal.ca/How%20Do%20The%20Poor%20Afford%20To%20Eat.pdf
- Nova Scotia Participatory Food Security Projects. (2006, October). *Thought about food?: Understand the relationship between public policy and food security in Nova Scotia: A background paper and policy lens*. Retrieved November 23, 2008, from <http://www.hpclearinghouse.ca/pdf/Policy%20Backgrounder%20&%20Lens.pdf>
- Nova Scotia Participatory Food Security Projects. (2007). *Cost and affordability of a nutritious diet in Nova Scotia: Report of 2007 food costing*. Retrieved November 23, 2008, from http://www.gov.ns.ca/ohp/repPub/food_costing_study.pdf
- O'Neill, M., Pederson, A., Dupere, S., & Rootman, I. (2007, May). *Health promotion in Canada: Critical perspectives* (2nd ed.). Toronto, Ontario, Canada: Canadian Scholars' Press
- Public Health Agency of Canada. (2004a). *The social determinants of health: Food security as a determinant of health*. Retrieved October 17, 2008, from http://www.phac-aspc.gc.ca/ph-sp/oi-ar/08_food-eng.php?option=print

- Public Health Agency of Canada. (2004b). *The social determinants of health: An overview of the implications for policy and the role of the health sector*. Retrieved September 25, 2008, from http://www.phac-aspc.gc.ca/ph-sp/oi-ar/01_overview-eng.php
- Restrepo, H.E. (2000, June). *Increasing community capacity and empowering communities for promoting health*. Retrieved October 16, 2008, from www.ops-oms.org/English/AD/SDE/HS/5thGlobalConf6.doc
- Vancouver Coastal Health. (2008). *VCH food security profile, July 2008*. Retrieved October 2, 2008, from www.vch.ca/population/docs/VCH_FoodSecurityProfile.pdf
- Wilkinson, R., & Marmot, M. (2003). *Social determinants of health: The solid facts* (2nd ed.). Copenhagen, Denmark: World Health Organization. Retrieved November 23, 2008, from <http://www.euro.who.int/document/e81384.pdf>
- W.K. Kellogg Foundation. (2004). *W.K. Kellogg Foundation evaluation book*. Retrieved on line September 26, 2008, from www.wkkf.org/Pubs/Tools/Evaluation/Pub770.pdf