Mount Saint Vincent University
Department of Applied Human Nutrition

Accessing Nutritious Food:
The Realities of Lone Senior Women in Urban Nova Scotia

by
Rebecca J. Green

A Thesis
Submitted in partial fulfillment
of the requirements for the degree of
Master of Science in Applied Human Nutrition

March, 2008
Halifax, Nova Scotia

Mount Saint Vincent University
Department of Applied Human Nutrition

Accessing Nutritious Food:
The Realities of Lone Senior Women in Urban Nova Scotia

by
Rebecca J. Green

Approved:

_____

Patty Williams, PhD, PDt
Thesis Supervisor
Associate Professor, Department Applied Human Nutrition
Mount Saint Vincent University

_____

Cathy Crouse, MSW, RSW
Executive Director
Metro Community Housing Association

_____

Theresa Glanville, PhD, PDt
Professor, Department Applied Human Nutrition
Mount Saint Vincent University

_____

Deborah Norris, PhD
Chair, Department of Family Studies and Gerontology
Mount Saint Vincent University

ABSTRACT

This is the first qualitative study in Canada specifically focused on food insecurity in the senior population. Food insecurity is associated with poverty, increased risk of chronic disease, and poor physical and mental health. With the Canadian population steadily aging, and food security being recognized as one of the social determinants of health, it is imperative decision makers understand how food insecurity affects the growing number of senior citizens so that appropriate programs and policies can be implemented to ensure access to food for this vulnerable population.

This thesis had three research objectives, to 1) explore how lower income senior women living alone in urban HRM experience food insecurity and uncover the meanings embedded in their experiences; 2) discover participant- and researcher-identified enablers and barriers to accessing nutritious foods; and, 3) explore how accurately hypothetical household scenarios detailing senior's public pension incomes and monthly expenses to assess the affordability of a nutritious diet reflects the realities of the participants.

To address the above objectives, in-depth semi-structured interviews were conducted. Interviews were transcribed verbatim and data were managed using NVIVO 7 software. The data were analyzed using a phenomenological approach to arrive at a structural description of the experience of food insecurity and expose the underlying and precipitating factors that account for what is being experienced. Bronfenbrenner's Ecological Systems Theory was used to examine the environment shaping the seniors' lives at various levels of influence.

Eight women meeting study criteria (over 65 years of age, living alone in Halifax Regional Municipality and in receipt of the Guaranteed Income Supplement (GIS)) were interviewed to inform the results of this study. These women were recruited using site-based recruitment methods through community organizations and a governmental housing program. All women rented their dwellings and seven lived in income-geared housing. Four of the women received a personal pension from the Canada Pension Plan (CPP) while two received a survivor's benefit. Only one woman reported income from a private pension.

Seven themes emerged as the women talked about their experiences with accessing food, including: 1) World View, 2) Health and Health Problems, 3) Use of Community Programs, 4) Transportation, 5) Adequacy of Income, 6) Other Food Management Strategies and, 7) Availability of Family & Friends. World view and health appeared to have the most influencial role on their food security status.

Bronfenbrenner's Ecological Systems Theory provided a model to examine the enablers and barriers to accessing food in relation to the fiver layers of the environment (micro-, meso-, exo-, macro- and chronosystems) influencing the participants' individual food-related behaviours. Enablers and barriers were both participant and researcher identified.

Finally, the third objective sought to gather participants' feedback on the use of affordability scenarios (comparing monthly incomes to expenses) to apply provincial food costing data to assess the adequacy of public pensions to afford a basic nutritious diet. Affordability scenarios were compiled in earlier research. The eight women reported Old Age Security, GIS, CPP and Goods and Services Tax credit as main sources of income and all had incomes greater than original research reported. Their interpretation of basic necessities included rent, telephone and cable (with some of the participants insisting a tele-health service was necessary), transportation, Pharmacare and food. Two revised affordability scenarios were created based on participants' input, which strongly show that a lone senior woman living in income-geared housing has significantly more money remaining for food and other non-"basic" expenses than a women paying market rent.

Stemming from findings, various implications for dietetic practice, public policy and future research are made. Focus is placed on food insecurity measures which underestimate prevalence in the senior population as current tools only collect data on income-related food insecurity; the need for more subsidized housing and more accessible and affordable transportation options for seniors.

Old age, to the unlearned, is winter; to the learned, it is harvest time.

~ Yiddish Proverb ~

ACKNOWLEDGMENTS

Firstly, I am so grateful for the **fabulous women** I interviewed. They opened their hearts and their homes to me and imparted such knowledge by sharing their experiences and opinions. Thank you for the tea, tears and laughter, I've truly been inspired. Also to the many community organizations that helped me get in touch with potential interviewees, your willingness to meet with me, trust me and go the extra mile is so appreciated.

Patty Williams, a marvellous mentor and friend. You opened my eyes to the injustice of food insecurity, and also provided a wealth of opportunities to play a role in addressing the root causes of this crucial issue. Being involved with the Nova Scotia Food Security Projects has been the most meaningful work I've ever been apart of. Thank you for your faith in me.

Thank you to my Thesis Committee:

- **Ms Cathy Crouse**- for providing the impetus to start this project, thanks for being involved in the Nova Scotia Centre on Aging and the Ecology Action Centre.
- **Dr. Theresa Glanville**- for helping me keep things focused and manageable.
- **Dr. Deborah Norris**- for her patience as I learned qualitative approaches to conducting research and her helpful edits.

My **family**; Mom, Dad, Stina and Simon, Oma, Gramma and in memory of Harry. I moved half way across the country but still thought of you all constantly, thank goodness for long distance phone plans!

I am so fortunate to have so many **friends** encourage me, offer editing skills, and lending listening ears, prayers and support all along my MSc journey. Specifically talks with **Geoff** in the grad office helped keep my sane, my marvellous roommate **Owen** and his mad cooking skills and ability to be calm in any and all situations, and especially **Dave**, the most supportive partner anyone could ever ask for… I love you.

Lastly, I would like to gratefully express thanks to the **Dietitians of Canada** Gerontology Network for their partial funding of this project via the Gerontology Network Sponsorship Program for Internship Projects.

TABLE OF CONTENTS

ABSTRACT 3

ACKNOWLEDGMENTS 5

LIST OF TABLES AND FIGURES 9

DEFINITION OF KEY TERMS 10

1. INTRODUCTION 11

1.1. Research Focus 13
1.1.1. Research Question 14
1.1.2. Research Objectives 14
1.2. Rationale for the Research 14

2. LITERATURE REVIEW 17

2.1. Introduction 17
2.2. What are Food Security and Food Insecurity? 18
2.3. Why is Addressing Food Insecurity Important? 21
2.3.1. Food Security and General Health and Nutrition 22
2.3.2. Food Security and Chronic Disease 24
2.3.3. Poverty, Food Insecurity, and Physical and Mental Health 26
2.4. Seniors - A Population Overview 28
2.5. How Seniors Experience Food Insecurity 29
2.6. Sources of Income for Seniors 34
2.6.1. Old Age Security Program 35
2.6.2. Canada Pension Plan 37
2.6.3. Private Pensions and Savings 38
2.7. (In)Adequacy of Seniors' Income to meet Health Needs 38
2.8. Measuring Food Insecurity 42
2.8.1. Direct Measures 42
2.8.2. Indirect Measures 47
2.8.3. Why Measuring Food Insecurity is Important 50
2.9. Strategies to Alleviate Food Insecurity 50
2.9.1. Food Costing in Nova Scotia 54
2.10. Conclusion 55

3. THEORETICAL FRAMEWORK & METHODOLOGY 57

3.1. Introduction 57
3.2. Theoretical Framework 58

3.3. METHODOLOGICAL APPROACH 63
3.4. MARRYING THEORY AND METHODOLOGY 64

4. RESEARCH DESIGN 67

4.1. INTRODUCTION 67
4.2. PARTICIPANT RECRUITMENT AND SELECTION 67
4.2.1. ELIGIBILITY CRITERIA 69
4.3. DATA COLLECTION 70
4.4. DATA ANALYSIS 74
4.4.1. DATA MANAGEMENT 74
4.4.2. ANALYSIS PROCEDURES 75
4.4.3. DATA QUALITY 77
4.5. LIMITATIONS 78
4.6. ETHICAL CONSIDERATIONS 78

5. RESULTS 80

5.1. INTRODUCTION 80
5.2. RECRUITMENT RESULTS 81
5.2.1. PARTICIPANT PROFILES 82
5.3. RESEARCH OBJECTIVE #1 – EXPERIENCES 87
5.3.1. WORLD VIEW/PAST EXPERIENCES/GENERATIONAL LENS 90
5.3.2. HEALTH AND HEALTH PROBLEMS 94
5.3.3. USE OF COMMUNITY ORGANIZATIONS 98
5.3.4. TRANSPORTATION 101
5.3.5. ADEQUACY OF INCOME 104
5.3.6. OTHER FOOD MANAGEMENT/COPING STRATEGIES 106
5.3.7. AVAILABILITY OF FAMILY & FRIENDS 109
5.4. RESEARCH OBJECTIVE #2 – ENABLERS AND BARRIERS 112
5.4.1. ENABLERS 119
5.4.2. BARRIERS 130
5.5. RESEARCH OBJECTIVE #3 – AFFORDABILITY SCENARIOS 142
5.5.1. INCOME 142
5.5.2. EXPENSES 144
5.5.3. REVISED AFFORDABILITY SCENARIOS 153

6. DISCUSSION 160

6.1. INTRODUCTION 160
6.2. PERCEPTION VERSUS REALITY 161
6.3. THE ROLE OF HEALTH AND THE HEALTH CARE SYSTEM 164
6.4. FOOD ASSISTANCE PROGRAMS 166
6.5. SUBSIDIZED HOUSING OFFERS PROTECTION 168
6.6. CRITICAL REFLECTION 171

7. CONCLUSIONS & IMPLICATIONS 175

7.1. CONCLUSION 175
7.2. IMPLICATIONS FOR PRACTICE 178
7.3. IMPLICATIONS FOR POLICY 180
7.3.1. PUBLIC PENSIONS 180
7.3.2. HOUSING 181
7.3.3. TRANSPORTATION 182
7.4. IMPLICATIONS FOR FUTURE RESEARCH 184
7.4.1. WIDOWHOOD'S EFFECT ON FOOD CONSUMPTION 184
7.4.2. SUBSIDIZED VS. NON-SUBSIDIZED HOUSING 185
7.4.3. SENIOR IMMIGRANTS 185
7.4.4. RELIGION'S ROLE IN FOOD SECURITY PERCEPTION 186
7.5. MACROSYSTEM REVIEW: PUTTING RECOMMENDATIONS INTO ACTION 187

REFERENCES 188

APPENDICES 200

LIST OF TABLES AND FIGURES

TABLES

Table 1. Dimensions and Components of Food Insecurity with Dietary Manifestations Examples 19
Table 2. Summary of Themes Related to the Nature and Managing of Food Security among Seniors living in Rural North Carolina 31
Table 3. Old Age Security Monthly Benefit Payment Rates for the July - September 2007 Period 37
Table 4. Canada Pension Plan Monthly Benefit Payment Rates for the Year 2007 38
Table 5. Contact Sites for Participant Recruitment 68
Table 6. Participant Profiles 86
Table 7. Number of Participants Reporting a Theme as a Current Factor or Main Enabler affecting their Food Security, and as a Wish to Increase their Food Security 89
Table 8. Detailed Enablers and Barriers to Achieving Food Security Identified at the Micro-, Meso-, Exo-, Macro-, and Chronosystems 115
Table 9. Revised Affordability Scenarios Comparing Potential Incomes to Basic Expenses based on Study Participants' Reported Situations 157

FIGURES

Figure 1. Continuum of Strategies to Address Food Security 52
Figure 2. Bronfenbrenner's Ecology Framework 58
Figure 3. Overview of Enablers and Barriers to Achieving Food Security Identified at the Micro-, Meso-, Exo-, Macro- and Chronosystems Among Lower Income Lone Senior Women in Urban HRM 114

DEFINITION OF KEY TERMS

Senior- any adult over the age of 65 years.

Community Dwelling Senior- non-institutionalized senior (i.e. not living in a Long Term Care Facility or Senior Residence where meals are provided).

Food Security- exists when all people, at all times, have physical and economical access to sufficient, safe, and nutritious foods to meet their dietary needs and food preferences for an active and healthy life (1) [and] includes an assured ability to acquire acceptable foods in socially acceptable ways (2).

Food Insecurity- the opposite of food security, the inability to obtain sufficient, nutritious, personally acceptable food through normal food channels or the uncertainty that one will be able to do so (3).

Food Insufficiency- refers to the quantitative component of food insecurity, in that food insufficient households sometimes, or often, do not get enough food to eat.

Halifax Regional Municipality (HRM)- the provincial capital of Nova Scotia. The area encompassed by the cities of Halifax, Dartmouth, the town of Bedford and all of the County of Halifax except for several First Nations reserves. The HRM sits along the middle of the south coast of the province and is home to almost 50% of the province's population (4).

Public Pensions- refers to both the Canada Pension Plan (CPP) and the Old Age Security (OAS) program.

Lower Income- when in reference to study participants, implies they are in receipt of the Guaranteed Income Supplement[1], a benefit that is part of the Old Age Security program administered by the Canadian government.

[1] The Guaranteed Income Supplement provides additional money, on top of the Old Age Security basic pension, to low-income seniors living in Canada. To be eligible for the GIS benefit, one must be receiving the Old Age Security basic pension and meet various income requirements including having an annual income less than $27 888 (at the time of this study).

1. INTRODUCTION

Food security exists when all people, at all times, have physical and economical access to sufficient, safe, and nutritious foods that are personally acceptable and culturally appropriate to meet their dietary and health needs; these foods must be produced and distributed in ways that maintain human dignity and are socially just (1, 5, 6). Food insecurity is the opposite of this. Inadequate income is the main determinant of food insecurity at the individual and household level (1). The 2004 Canadian Community Health Survey (CCHS) revealed that almost 15% of households in Nova Scotia experienced either moderate or severe income-related food insecurity in the previous year (7). Nova Scotia was the only province in Canada that reported a higher statistically significant difference from the national average of 9.2% (7). Income-related food insecurity appears to be less of a problem for the elderly population, 5% of Canadian seniors reported experiencing this phenomenon (7). As the fastest growing segment of the population is found among those who are 65 years of age and older, the prevalence rate will eventually materialize into an increasing number of seniors who will experience food insecurity. Specifically in Nova Scotia, the senior population is expected to grow by 80% in the next 20 years, compared to a mere 3% growth rate in the general provincial population (8).

Research has shown that food insecurity may have negative impacts on healthy eating (9-13) and chronic disease prevention and management (14, 15). In Nova Scotia, the severity of the issue has been validated by several studies examining the potential and actual negative affects of food insecurity in various low income households (9-11, 13, 16-18). These studies have focused mainly on families with children (often lone-mother led

families). Research to date on food insecurity in the senior population in Nova Scotia has been limited to previous work conducted for my graduate independent study research with my thesis supervisor applying provincial food costing data to assess the ability of seniors relying on public pensions to afford a nutritious diet (12), and literature on seniors and food insecurity in Canada is scarce.

Much of the influential work on seniors and food insecurity has come from Cornell University (New York), where researchers suggest that seniors experience food insecurity in a slightly different way than younger generations (19). Specifically two distinguishing features exist: first, health and health problems (including physical disabilities) have a much larger influence on seniors' food security status, and second, previous life experience (incorporating seniors' world view and religious practices) also has a greater effect on how seniors perceive their food security situation (19).

Hence, there is a need to place a greater focus on these two distinguishing factors when studying food security in aging populations. Current methods used to estimate prevalence of food insecurity in Canada focus solely on financial barriers (7, 20, 21); methods that acknowledge the other key factors that can influence food security status in seniors, as well as the overall population, are lacking. Research is needed to understand how seniors experience food insecurity and the various enablers and barriers influencing their ability to access nutritious food. This understanding can then be used to inform measurement and assessment tools better designed to capture food security indicators in the senior population.

As the most important determinant of health, adequate income has an essential role in ensuring food security. Previous work carried out by Green et. al (12) suggests

that single-member senior households relying on public pensions may lack the necessary funds for a basic nutritious diet, while living with a partner seemed to protect these persons against inadequate financial resources (12). Nearly 30% of Nova Scotia seniors live alone (8) and public pensions provide the sole source of income for more than a quarter of the Canadian senior population (22) and constitute the main source (over 50%) of income for over two-thirds of the population (23).

This thesis builds on my graduate level independent study research on the adequacy of federal financial supports to acquire the basic necessities of life, especially nutritious foods, among Canadians seniors. This study is warranted considering the impending dramatic growth of Nova Scotia's senior population. Moreover, the application of previous work on food insecurity in seniors in the United States is limited in a Canadian context. For example, American seniors may experience food insecurity differently than Canadian seniors partly due to Canada's universal health care system.

1.1. Research Focus

To understand what food insecurity means for seniors, the concept was explored using a phenomenological approach with a focus on how health and world views affect what seniors eat and how they perceive their food situation. This research focused specifically on lower income senior women living alone in an urban area of Nova Scotia. This thesis also applied findings from our previous research, exploring the adequacy of public pensions to afford a basic nutritious diet (12), to examine how hypothetical senior household affordability scenarios (an examination of monthly income versus expenses) compared to the real-life situation that the senior women participating in this study encounter.

1.1.1. Research Question

What are the experiences of lower income senior women living alone in urban Halifax Regional Municipality (HRM) with accessing the nutritious foods they need and want?

1.1.2. Research Objectives

1. To explore via in-depth interviews how lower income community dwelling senior women living alone in urban Halifax Regional Municipality experience food insecurity and uncover the meanings embedded in their experiences.
2. To discover participant-identified and researcher-identified enablers and barriers to accessing nutritious foods for lower income senior women living alone in urban Halifax Regional Municipality.
3. To explore how accurately hypothetical household scenarios detailing senior's public pension incomes and monthly expenses reflect the affordability of a nutritious diet for lower income senior women living alone in urban HRM.

1.2. Rationale for the Research

The lack of attention to seniors' ability to access nutritious food (12) is of concern for two main reasons: the proportion of seniors in the Canadian population has been steadily increasing (8, 23), and food security is recognized as one of the social determinants of health (24). With almost 60% of seniors in the province being women, women having a higher life expectancy then men (8), and women being more likely to live in poverty (23), this study focused specifically on senior women and how they experience food (in)security.

Statistics Canada reports 15% of all seniors in Nova Scotia are living below the *after-tax* Low Income Cut Off (LICO)[2], Canada's unofficial poverty line (8). Two-thirds of these impoverished seniors are unattached women; almost one half of all senior women living by themselves in Nova Scotia live below the LICO (8). Women in receipt of the Guaranteed Income Supplement, although not automatically considered to be living in poverty, are of lower income and at increased risk of income and food insecurity. Their experiences with accessing food must be told so that we can learn if their incomes are adequate to afford a nutritious diet, as well as examine financial and social supports they feel are needed in order to secure access to nutritious foods. Affordability scenarios (the comparison of potential monthly incomes against expected monthly essential expenses) are documented in previous published research using similar methods to examine the adequacy of social assistance in Ontario (25) and minimum wage in Nova Scotia (13) for non-senior households. This thesis will explore how accurately affordability scenarios constructed by Green et al. (12) reflect the actual financial situation of the women participants of this study.

In the 1998-1999 National Population Health Survey, Canadians experiencing income-related food insecurity were more likely to report their health as fair or poor and were more likely to have multiple chronic diseases than food secure individuals (26). Nova Scotians experience alarmingly high rates of cardiovascular disease, diabetes and cancers (27); these and other prominent chronic diseases can be prevented or mediated by a nutritious diet (28). This thesis will uncover the role of health and health problems in

[2] **The Low-Income Cut-Offs (LICOs)** is Canada's unofficial measure of poverty. LICOs define a set of income cut-offs below which people may be said to live in straitened circumstances. Families who spend significantly more (i.e., 20 percentage points more) on food, clothing and shelter than the average Canadian family (of same household size) living in a similar sized community are considered to be living below the cut-off (147).

how lone lower income senior women experience food (in)security, as research suggests health is a distinguishing factor in how seniors experience food insecurity compared to younger generations (19).

In order to develop policies and programs to facilitate the achievement of food security for lower income seniors, decision makers must understand how food insecurity is experienced in this population and know what their major enablers and barriers are to accessing the foods they need and want.

2. LITERATURE REVIEW

2.1. Introduction

The purpose of the literature review is to provide the reader with relevant background information on seniors and food insecurity to situate the need for, and findings of, this study. Section 2.2 will explain what is meant by food security in the context of this study, and why the attainment of food security for all Canadians, and specifically seniors, is important. Section 2.3 will explore the links between food security and general health and nutrition, and its relationship to chronic disease, and poverty.

Sections 2.4 and 2.5 will focus on the senior population, and will provide a demographic overview of seniors in Canada before discussing what current literature tells us about food insecurity in seniors and why seniors may be at increased risk for food insecurity compared to the general population. Sections 2.6 and 2.7 describe the various sources of income available to seniors, highlighting our previous research assessing the adequacy of Canada's public pension system to afford a nutritious diet for lower income senior households.

To understand why previous research suggests prevalence rates of food insecurity may be underreported in seniors, Section 2.8 will provide an overview of the various direct and indirect ways to measure if a population is food secure.

The literature review will conclude with a discussion of strategies used to achieve food security at both household and population levels with a focus on strategies used in the senior population. Section 2.9.1 explore the unique role provincial food costing studies and construction of household scenarios to examine the affordability of a

nutritious diet have played in shaping this thesis as well as how it has been used as a strategy for addressing food insecurity in Nova Scotia.

2.2. What are Food Security and Food Insecurity?

Food security is a multi-faceted concept, and can be interpreted in different ways. Multiple approaches to the topic, (i.e. sociological, agricultural, environmental, population health etc.) have led to a variety of definitions. This paper uses a combination of the Dietitians of Canada and the American Dietetic Association definitions of food security to create a definition that emphasizes the importance of physical and economical access to nutritious food in ways that maintain human dignity. Food Security exists when all people, at all times, have physical and economical access to sufficient, safe, and nutritious foods to meet their dietary needs and food preferences for an active and healthy life (1) [and] includes an assured ability to acquire acceptable foods in socially acceptable ways (2). Food security is a concept that can be examined at global, national, community, household and individual levels (29), but for the purpose of this thesis the focus will be at the individual and household level.

Food insecurity is the opposite of food security and has been defined as the inability to obtain sufficient, nutritious, personally acceptable food through normal food channels or the uncertainty that one will be able to do so (3). The definition of food insecurity incorporates an additional sub-concept to the issue: anxiety about being able to obtain adequate nutritious food. Food secure individuals not only have enough of the foods they need and want, they also do not worry about a cessation in this supply.

In the last two decades, significant research has occurred which has both broadened and deepened our understanding of food security and its impacts on human health. In

some of the pioneering research on hunger and food insecurity, Cornell University researchers Radimer and colleagues conducted interviews with 32 women from upstate New York (30). During these qualitative interviews, participants shared their experiences with food problems and hunger as researchers attempted to derive a socially appropriate definition of hunger. From these interviews, researchers found that two dimensions of food insecurity existed: an individual dimension and a household dimension. Each dimension contained four components: quantitative, qualitative, psychological, and social (30). Table 1 shows the conceptual framework that emerged from their work:

Table 1. Dimensions and Components of Food Insecurity with Dietary Manifestations Examples
(30)

	Dimension	
Component	**Individual**	**Household**
Quantitative	Insufficient intake	Food depletion
Qualitative	Nutritional inadequacy	Unsuitable food
Psychological	Lack of choice, feelings of deprivation	Food anxiety
Social	Disrupted eating patterns	Food acquisition in socially unacceptable ways

The quantitative component of food insecurity is the most easily measured. It can be described as having to go without food, or having to eat less food than usual. Hunger can be a symptom of this component. Manifestations of the qualitative component can be observed when individuals consume nutritionally inadequate meals or foods that do not meet health needs. An individual's anxiety over their food situation, exemplified by lack of choice and wondering where their next meal will come, from are elements of the psychological component of food insecurity. The social component is manifested by

socially or culturally less normative patterns of eating (e.g. skipping meals), and acquiring food in socially unacceptable ways (e.g. using a food bank) (30).

The ways in which these four components are manifested depend on what dimension of food security is being studied: individual or household (29). A young child may not experience hunger (individual food insecurity- quantitative component) because the mother chooses to procure food from a food back (household food insecurity- social component). Food insecurity must also be considered in terms of frequency, duration, and periodicity (29). Frequent and/or longer lasting experiences with food insecurity may be more likely to result in hunger and an increased reliance on charity services, both of which may cause more stress in the household. Periodicity could refer to the time of year; perhaps a household is less likely to experience food insecurity in the summer and fall when they have access to a vegetable garden.

Radimer and colleagues' conceptualization of hunger and food insecurity among women was validated by a second phase of research surveying 189 women who were using programs designed for lower income families in need of food assistance (30). Other researchers using the Radimer/Cornell Measures of Hunger and Food Insecurity (the resulting measurement tool of Radimer et al.'s work) found that the two dimensions and four common components were consistent with the experiences of food insecurity among the lower income women participating in their study, and validated this instrument's ability to differentiate among levels of severity of food insecurity (31).

Previous research has shown that these four components of food insecurity are also experienced by older adults in the United States (32). A Cornell University study involving interviews with 53 older men and women (mean age 71 years; with all but six

participants over 60 years of age) living in both rural and urban up-state New York also divided emerging themes related to the conceptualization of food insecurity into quantitative, qualitative, psychological and social categories. However, this research uncovered two distinguishing features regarding the experience of food insecurity in the elderly compared to younger populations; health and health problems (including physical disabilities) had a much larger influence on seniors' food security status, as well their perception of their food security status was strongly influenced by their world view (generally based on previous life experiences and religious practices) (19).

Seniors are unique to the rest of the population in that they experience more health problems than their younger counterparts (33, 34). Health issues affect functionality and mobility, and can hinder physical access to food (19). Also, many health issues require therapeutic diets, which increases the importance of obtaining adequate nutritious foods when optimizing health in older populations.

In addition to the influence of health issues, it is thought that seniors' age and life experiences cause them to view the world differently than younger generations (19, 32, 35, 36). This generational lens may alter how seniors perceive their financial and food situation and may prevent them from seeking help for reasons of pride, or it may simply cause them to be thankful for and settle with what they have (37). Section 2.5 will provide a conceptualization of how food insecurity specifically affects seniors, particularly emphasizing health and world view.

2.3. Why is Addressing Food Insecurity Important?

This section will examine the negative relationship between food insecurity and one's ability to access a nutritious diet and mitigate risk for chronic disease. The

association between food insecurity and poverty becomes clear as the literature reveals that those with less money are at greater risk for food insecurity, poor nutrition, and poorer health than those with more money. Chronic diseases such as cardiovascular disease and cancer are used to exemplify the relationship between insufficient access to nutritious food and the resulting poor health outcomes.

2.3.1. Food Security and General Health and Nutrition

Food security has been named a key social determinant of health (24). Research has shown that food insecurity may have negative and interconnected impacts on healthy eating (9-11) and chronic disease prevention and management (14, 15). Canadians who are food insecure are more likely to report their health as fair or poor and are more likely to have multiple chronic diseases compared with Canadians who are food secure (24). Food insufficient households (those who report having inadequate quantities of food) are more likely to report heart disease, high blood pressure, and diabetes (diseases which can be mediated by a nutritious diet) than food sufficient households (38).

Seniors who are food insecure may experience various manifestations of malnutrition. American researchers found that individuals reporting themselves to be food insecure had significantly lower intakes of calories and other key nutrients than those reporting themselves as having sufficient food (39). Data from large national surveys have helped confirm this correlation. Rose & Oliveira analyzed data from the 1989 through 1991 Continuing Survey of Food Intake by Individuals (US Department of Agriculture), looking at relationships between food insufficiency and nutrient intake (40). Households describing their food situation as either 'sometimes not enough to eat' or 'often not enough to eat' were considered food insufficient. Data on 2215 seniors were

available and 2.75% (n=61) reported being food insufficient. Of those seniors who reported food insufficiency, mean energy intake was only 58% of their Recommended Daily Allowance[3] (RDA), while those who reported sufficient food intakes have mean energy intake at 77% of the RDA (40). The 61 seniors reporting food insufficiency consumed less than two-thirds of their RDAs for calcium, vitamin E, vitamin B6 (pyridoxine), magnesium and zinc while the other seniors consumed 83, 90, 95, 82 and 78% of the RDAs respectively (40).

Food insecurity is a major factor affecting one's ability to consume a nutritious diet (9, 10, 41, 42). Studies examining food intake in adult (non-senior) households, both in Canada (42) and in the United States (31) saw lower intakes of fruit and vegetable consumption in food insecure households. A study examining diet quality of 139 Atlantic Canadian families with children aged 14 years and younger headed by lone mothers living below the Low Income Cut-Off, Canada's unofficial poverty line, found that almost 95% of mothers did not meet the recommended number of servings for grains, nor for vegetables and fruits according to Canada's Food Guide to Healthy Eating (16). Almost 80% of the participants did not meet the serving recommendations for meat and alternative or milk products.

A study specifically examining the adequacy of minimum wage earnings among select Nova Scotian households showed the inadequacy of low paying jobs to enable households to purchase a nutritious diet after accounting for other necessary basic monthly expenses (13). Food insecurity also affects those no longer in the work force; seniors living alone in Nova Scotia whose only source of income is through the public

[3] **Recommended Dietary Allowances**, developed by the Institute of Medicine of the National Academy of Sciences, are nutrient intake levels that meet the needs of most (97.5%) of healthy Canadians. They're set at levels intended to prevent nutrient deficiencies and also to reduce the risk of chronic disease (44).

Old Age Security program or the Canada Pension Program also have inadequate income to purchase a nutritious diet (12).

2.3.2. Food Security and Chronic Disease

In Nova Scotia, poor nutrition is a major contributor to the two most prevalent chronic diseases in the province: cardiovascular disease (which includes heart disease, stroke and atherosclerosis), and cancer (27). Cardiovascular disease and cancer account for over 60% of all deaths in Nova Scotia annually (27). When compared with other Canadian provinces, Nova Scotia has the highest rate of deaths from cancer and the second highest rate of circulatory deaths and of diabetes (27).

2.3.2.1. Cardiovascular Disease

Good nutrition and an active lifestyle are essential for mitigating cardiovascular disease. National health messages encourage Canadians to consume a high fibre, low fat diet (28, 43). The National Academies of Science place emphasis on minimizing saturated fats and eliminating trans fats from our diets (44). Consuming a diet high in saturated- and trans fatty acids negatively effects blood cholesterol and lipid values (44) and increases the risk of many heart diseases (45). Saturated and trans fatty acids are found in animal products (meat and dairy) and processed foods using hydrogenated fats such as some margarines.

A study examining the relationship between price and types and amounts of fats in margarines sold in major grocery chains in the Greater Toronto Area found margarines lower in saturated fatty acids and trans fatty acids, on average cost significantly more than those with greater amounts of these fats (46). Also, margarines with a nutrient

content claim (e.g. “low in saturated fat” meaning 2g or less of saturated fat and trans fat combined) were significantly more expensive than those without a claim.

A diet high in fruits, vegetables, and whole grains also decreases the risk for cardiovascular problems (47-49). These foods are rich in fibre and antioxidants and are low in fat, all components of a heart-healthy diet. Increasing the consumption of fruits and vegetables has been designated a priority in Nova Scotia, as less than one-third of Nova Scotians meet the serving requirements for this food group (50). Research examining food consumption of low income households with children in Atlantic Canada found food insecure individuals are unlikely to consume adequate amounts of these nutritious foods (16).

A diet lacking in fresh produce and abundant in processed and convenience foods is laden with salt (51). A high-sodium diet is linked with increased risk for hypertension (51). A review of key studies from the United States has linked a decrease in sodium intake to lower blood pressure levels (51); some studies saw that reduced dietary sodium levels produce effects similar to those observed in adults who have been prescribed blood pressure medications (52). In Canada, 41% of senior men and 48% of senior women are affected by hypertension (53).

The higher cost of more nutritious margarines, the need for a diet rich in nutrient-dense but energy-poor fruits and vegetables, and the cheap price of highly processed sodium-rich foods can make a heart-friendly diet economically unviable for low income households. Food costing, using Agriculture Canada’s Nutritious Food Basket and substituting whole grains and lower fat animal products for original basket items, found that the cost of implementing heart-healthy nutrition recommendations was 12% to 18%

higher than the cost of a basic adequate diet in Nova Scotia in 1994 (15). Food insecure individuals may be unable to absorb this cost.

2.3.2.2.*Cancer*

Nova Scotia's other most prevalent chronic disease, cancer, can also be closely linked to nutritional intake. Studies have clearly showed the protective effect of diets rich in fruits, vegetables, and fibre on cancer prevention. An international report, involving the input of over 100 experts in the field devised a set of recommendations to prevent cancer; all but two of these 29 recommendations are food-based (54). Recommendations include consuming a predominantly plant-based diet rich in a variety of fruits and vegetables and minimally processed starchy staple foods. The authors also recommend limiting animal fats and selecting non-hydrogenated, monounsaturated-rich oils.

The experts conclude that nearly one-third of all deaths from cancers are caused by inappropriate diets and that between 30-40% of all cancers are preventable by "feasible and appropriate diets and by physical activity and maintenance of appropriate body weight" (54, p524). As discussed above, the cost of these "cancer-fighting foods" is simply out of reach for many low income Canadians (16), providing an unfair disadvantage for those seeking optimal health, and burdening the health care system with potentially avoidable costs (27, 55).

2.3.3. Poverty, Food Insecurity, and Physical and Mental Health

Poverty is a significant predictor for the prevalence of chronic physical diseases (27, 56) and poverty is also associated with poorer mental health status (57) and depression (58). *Income and Social Status* has been recognized as the most influential

determinant of health (56). Low income Canadians are more likely to die earlier and to suffer more illnesses than Canadians with higher incomes, regardless of age, sex, race, and place of residence (56).

Of Canadians in the highest income bracket, 73% rate their health as very good or excellent, whereas only 47% of Canadians in the lowest income bracket consider their health as very good or excellent (56). In the senior population, 62% of seniors in the highest income bracket reported good health, compared to only 41% of those in the low or lower-middle income level (53).

Poverty is also a significant predictor of hunger and food insecurity in Canada (24, 29); similar findings hold true in the United States (59). In a recent position paper on the topic of poverty and food insecurity, Dietitians of Canada state poverty is the root cause for individual and household food insecurity (1). This idea is supported by national data, which show that the majority of Canadians reporting food insecurity have lower incomes than food secure Canadians (7, 20).

It has been consistently observed that lower cost food items tend to be higher in energy and added simple sugars and fats, and lower in fibre and micronutrients (15, 60-63). Drewnowski and his colleagues examined the relationship between food costs, energy density, and nutrient density. A food composition data base of 637 foods was analyzed and results showed that energy density is negatively correlated to nutrient density and, generally, nutrient rich foods are associated with higher food costs (60). In another study, researchers found the cost per mega-joule (a unit of energy) was lower for items like sugar, vegetable oil, potato chips and soft drinks, while cost increased progressively for items like fresh carrots, fruit, and concentrated orange juice (62). Fruits

and vegetables are considered some of the more costly sources of dietary energy due to their high water content.

Qualitative studies exploring the experiences of low income women in Eastern Canada accessing nutritious food put the above findings into context. In a Nova Scotia study, researchers found mothers valued energy density over nutrient density (9). One mother captured the essence with this quote: "Most parents [living on low income] - their main goal is for their kids not to be hungry. You know, does it mean buying a bag of apples that they eat for a couple of days or the hotdogs they eat for a week. And they're gonna be a lot fuller eating a hotdog, I go buy them." (9, p53). A participant in an Atlantic Canadian study shared this experience: "Have you ever noticed that around the end of the month, around the 20th and the end that things like Kraft Dinner and stuff are really cheap. Fruit, milk, all the other good stuff is at an all-time high." (64, p269).

Energy dense, highly processed foods can be less expensive than more nutritious options and may therefore be more appealing to low income households due to the satiety value of high fat and high sugar foods. This reality has been extensively studied in households with children, while the literature examining this phenomenon in the senior population is lacking. Limited income and physical and mental health issues place many seniors at an increased risk for food insecurity (20). Following in Section 2.5, American studies uncovering how older populations experience food insecurity will be discussed, as well as the contributing roles of finances and health to food insecurity in this population.

2.4. Seniors - A Population Overview

Canada's population demographics are shifting towards a more elderly profile as seniors are the fastest growing age group in the country (65). In 2000, seniors

represented 12.5% of the Canadian population, and it is projected they will represent 18% of the total population by 2021 (23). In 2005, seniors represent 14% (133 600) of the Nova Scotian population (66). This number is expected to double by 2026, with a projected 700 Nova Scotians turning 65 every month until that year (67). With such a drastic increase in the number of individuals becoming seniors, exploring factors contributing to food insecurity, such as income and health, is paramount to understanding how best to design programs and policy to address the issue. These measures may help to avoid the burden chronic disease associated with malnutrition and food insecurity on the health care system in the future.

2.5. How Seniors Experience Food Insecurity

Little research has been published to date on food insecurity in Canadian seniors. In the process of inviting 193 community-living seniors in Ontario to help validate a nutrition screening tool, Keller conducted a statistical analysis to examine how reliance on others for food-related activities of daily living (FADL) (i.e. grocery shopping and meal preparation) can influence food intake (68). Results showed that, in general, seniors who had any dependence for FADL required more formal and informal supports, had more health problems, perceived their health as poorer, avoided activities due to fear of falling, and had lower total food group intake compared with those with no dependence on others for FADL. A senior's ability to grocery shop independently and prepare his or her own meals speaks to his or her physical access to food, and therefore encompasses one of the concepts of food security. Keller concluded that reliance on others for FADL is common in community-living seniors and negatively influences food intake.

The majority of food security research in older populations has been conducted in the United States. In one study, in-depth interviews with 53 elderly participants living in subsidized housing or accessing community-based food programs provided a conceptualization of their experiences with food insecurity (32). Participants were recruited from three urban centres in upstate New York. Twenty-five were Latino, 28 non-Latino, and all but six participants were over 65 years of age, with a mean age of 71 years. Wolfe and colleagues identified ten themes from the interviews relating to the participants' experiences of food insecurity: 1) lack of money, 2) transportation limitations, 3) health or mobility limitations, 4) not the right kinds of foods for health, 5) compromises between quality and quantity of food, 6) financial priorities (other expenses vs. food), 7) strategies for accessing food (food banks, borrowing money, etc.) 8) lack of motivation to cook or eat, 9) perception of adequate food for health, and 10) worry or anxiety about food situation (32). These ten themes vary in degree of severity and point in time (for example, less severe in summer when personal garden was in harvest and more severe at end of month before government cheque comes in).

The work by Wolfe et al. (2003) validates the original conceptualization of food insecurity with its individual and household dimensions and four categories (quantitative, qualitative, psychological and social) put forth by Radimer and colleagues (30); however, Wolf et al. found new elements within the qualitative and psychological components unique to seniors. Having the right foods for health, and anxiety over not having these specific health-related foods were new components that have not been previously reported as major concerns for younger populations (32).

Quandt et al. (2001) also provide a detailed description of food insecurity in seniors. Their work involved in-depth interviews with 145 older adults, age 70 years and older, living in rural North Carolina; seniors were recruited using site-based recruitment approaches, over-sampling minority populations. Two overarching categories emerged from their qualitative data: the nature of food security and the managing of food security (37). Under each of these headings, four and five themes were identified respectively, and are summarized in Table 2.

Table 2. Summary of Themes Related to the Nature and Managing of Food Security among Seniors living in Rural North Carolina
(37)

Category	Theme
Nature of Food Security	"You can't always get what you want"
	Self-sufficiency was instilled by upbringing
	Pride in weathering hard times
	Good fortune, luck, and God
Managing Food Security	Coping with periodicity of food supply
	Food production and preservation
	Use of informal support
	Dislike of credit
	Being financially responsible

Interestingly, only 17 of the 145 participants interviewed self-reported as food insecure, although many quotes pulled from the interviews to exemplify insecure experiences came from self-reported food *secure* elders. This observation lends credence to speculation (19) that seniors' perception of food insecurity may be influenced by their

world view and they may therefore interpret questions about food security differently than younger populations.

Another interesting finding in the study by Quandt et al. (2001) is that these North Carolina seniors consider compromises in their diet the norm; 'you can't always get what you want.' This seems to contradict findings from Wolfe et al. (2001), which saw seniors stressing the importance of having the necessary foods for their health. This could suggest differences in how demographics and geography play a role in how seniors view their situation. However, both Wolfe et al. (2003) and Quandt et al. (2001) find similar widespread negative feelings towards debt and credit; seniors in these studies do not see a choice - they simply pay bills in order to avoid debt and eat less quality, or lesser quantities of food.

Earlier work by Wolfe and colleagues (69) focused on how food insecurity progresses in severity. In seniors this progression often starts with compromised diet quality, which could manifest itself by having enough food but lacking in quality, variety, or improper foods for health conditions. The next stage is characterized by anxiety and uncertainty over the acquisition of food and food management strategies; seniors worry about how and where they will get their next meal. Those dependent on others for transportation are likely to experience this anxiety the most. This step is followed by eating socially unacceptable meals or having to eat less. The final stage of progression was the use of emergency strategies such as food banks or soup kitchens (69). These four stages, although often seen as a progression, did not necessarily happen in a specific order and seniors can experience more than one stage at a time.

Another qualitative study involving 192 rural seniors in Kentucky (70) classified barriers to obtaining sufficient food into three categories: material (e.g. low income), social (e.g. limited family network), and health (e.g. presence of disease or disability). Findings show that material, social and health factors are all individually associated with food insecurity, and although material barriers had the strongest relationship to food insecurity, they all interact together to cause or mitigate the problem.

The Kentucky study also examined rural seniors' coping strategies to deal with current or impending food shortages. Seventy-five percent of the participants undertook actions to bring free food into the house (e.g. applied for food stamps, accessed food bank, ate samples at grocery stores); 55% took actions to defer cost of food (e.g. buy on credit, borrow); 33% undertook "belt-tightening" actions (e.g. make cheaper or smaller meals); and 18% used social networks for food (e.g. eat a friend's/relative's house, borrow from friends/relatives).

In a different population, the 53 seniors from up-State New York (32) reported their different strategies for dealing with food insecurity, allowing researchers to uncover important cultural and rural-urban findings when comparing results from their previous work (69). In this study, urban Latinos and rural Caucasians were less likely to go beyond family and friends to seek help procuring food compared to urban Caucasians or urban African-Americans. Pride seemed to be a strong motivational factor when (attempting to) remain self-sufficient while accessing food. The authors recommended that programs and services targeting seniors should not market themselves as a charity or a food-assistance program, as these elicit negative connotations with many seniors (32). Senior participation may be increased by promoting the social aspect of involvement or

by incorporating seniors directly into the program (e.g. help with meal preparation) so that they feel needed and that they are contributing - not just receiving a 'hand-out.'

While it has been widely accepted that the main cause of individual and household food insecurity is poverty (1), various strategies used by seniors to achieve food security will be discussed in Section 2.9. Although the discussion above reveals that seniors' access to food is reliant on more than just finances, it is important to examine the sources of income available to seniors and consequently examine the adequacy of their income when considering their ability to achieve food security.

2.6. Sources of Income for Seniors

Canada's retirement income system has three levels, extending the risk and responsibility across governments, employers and individuals to ensure the retired and elderly have adequate income to support a quality standard of living in their senior years (22, 71, 72). The first two levels are public programs known as the Old Age Security program (OAS) and the Canada Pension Plan (CPP). The third level consists of private pensions and savings, such as registered pension plans (RPPs) and registered retirement savings plans (RRSPs).

Building a private retirement income is not a new concept. The first private (employee sponsored) retirement plan for federal civil servants came into effect in 1870 (73). However, it was not until 1927 that the first public pension plan, the Old Age Pensions Act, was established. This Act enabled British subjects aged 70 years and older who had lived in Canada for at least 20 years to qualify for $240/year. Recipients also had to pass a means test in order to prove they were in financial need and that their family members could not support them (22). As the Great Depression of the 1930s rolled into

the Second World War and a prosperous economy in the 1940s, social 'safety nets' such as Unemployment Insurance and Family Allowances came into existence. Finally in 1952, Old Age Security, the first universal pension, was enacted (22). This pension, $480/year, was available to Canadians, aged 70 years and older who had lived in Canada for 20 years; was required. The status of OAS today will be discussed in Section 2.6.1.

The Canada and Quebec Pension Plans (C/QPP) was established in 1966. These plans are similar to a universal pension in that most employed Canadians contribute to it, and the plan is not dependent upon where you work; it is 'portable' from job to job (22). CPP will be further discussed in Section 2.6.2.

A closer examination of the two public systems as well as private pensions and savings follows.

2.6.1. Old Age Security Program

The Old Age Security (OAS) program is the foundation of Canada's retirement income system (71, 72), and makes a basic pension available to most Canadian citizens and legal residents over the age of 60 years. This program is financed from the federal government's general tax revenues. In addition to the OAS basic pension, benefits of the program include the Guaranteed Income Supplement and the Allowance, which will be discussed below. These benefits provide a modest monthly income that is adjusted four times a year based on changes in the cost of living as measured by the Consumer Price Index (71). Table 3 displays benefits for the July to September 2007 time period.

The OAS Basic Pension is available to all seniors over the age of 65 years, provided they have lived in Canada for a minimum of 10 years since the age of 18 years (71). The applicant does not need to be retired, nor does their employment history have

any bearing on the amount available to them (71, 74). This amount is taxable at both the federal and provincial levels, thus higher income pensioners will pay part or all of this benefit back through the income tax system (71, 74).

The Guaranteed Income Supplement (GIS) was originally put in place to ensure that low and moderately low income seniors could meet their basic needs and maintain a reasonable standard of living (22, 71, 72, 75). To be eligible, seniors must be receiving an OAS basic pension and meet other certain income requirements. The monthly amount available depends on the applicant's marital status and income. Seniors must apply for their GIS, generally through the income tax system, and this benefit is not taxable (71, 72).

Also within the OAS program is the Allowance, a benefit for 60 to 64 year old spouses or common-law partners of GIS recipients (76, 77). The benefit is also available to widowed 60 to 64 year old survivors of GIS pensioners. The amount available is an income-tested benefit and stops being paid when the annual income of the recipient surpasses a designated cut-off (78) or when the recipient becomes eligible for an OAS pension at age 65 years (71). Seniors must apply for the Allowance, generally through the income tax system, and this benefit is not taxable (71, 72).

Table 3. Old Age Security Monthly Benefit Payment Rates for the July - September 2007 Period
(79)

Type of Benefit	Recipient	Average Monthly Benefit (based on March 2007 figures)	Maximum Monthly Benefit
Old Age Security Pension	All recipients	$466.89	$497.83
Guaranteed Income Supplement	Single Person	$436.13	$628.36
	Spouse of Pensioner	$272.38	$414.96
	Spouse of Non-Pensioner	$413.49	$628.36
	Spouse of Allowance Recipient	$343.90	$414.96
Allowance	Regular*	$359.00	$912.79
	Survivor	$566.38	$1011.80

* Regular Allowance recipients are between the ages of 60 - 64 years and spouse/common law partner is a GIS recipient.
Note: Pensioners with an individual net annual income above $63 511 must repay part or all of the maximum Old Age Security pension amount. The repayment amounts are normally deducted from their monthly payments before they are issued. The full OAS pension is eliminated when a pensioner's net annual income is $103 101 or above.

2.6.2. Canada Pension Plan

The Canada Pension Plan (CPP) was enacted in 1966 as a measure of protection to contributors (employees paying into the Plan) and their families against loss of income due to retirement, disability, or death (22, 71). Nearly all Canadians between the ages of 18-70 years who are employed (including self-employed individuals) earning more than $3,500 a year contribute to the CPP and are entitled to a retirement pension once they turn 60 years of age (22, 71, 72, 80). The age at which a senior decides to start collecting his/her pension affects the amount payable to the contributor. Monthly maximum rates are based on a contributor beginning his or her pension at age 65 years. Table 4 shows the maximum monthly rates for 2007 and the average monthly rates as of March 2007.

Table 4. Canada Pension Plan Monthly Benefit Payment Rates for the Year 2007 (79)

Type of Benefit	Average Monthly Benefit (based on March 2007 figures)	Maximum Monthly Benefit
Retirement pension (at age 65 years)	$481.52	$863.75
Survivors benefit (age 65 years and over)	$287.40	$518.25
Combined survivors & retirement benefit (retirement at age 65 years)	$681.56	$863.75
Death benefit (maximum lump sum)	$2,230.76	$2,500.00

2.6.3. Private Pensions and Savings

The public retirement income system was not intended to fully support Canadian seniors' financial needs. The Government of Canada offers tax breaks on payments to employer retirement plans and Registered Retirement Savings Plans to encourage Canadian residents to contribute to personal pensions and savings (72). According to a 2005 publication by the Nova Scotia Seniors' Secretariat (81), the typical Nova Scotian senior derived 45% of his or her annual income from private pensions and investments. Statistics Canada reports that over half (55%) of all Canadians 65 years of age and older received some form of private pension income in 1999 (73). Private pension income is largely in the form of registered pension plans (RPPs) and registered retirement savings plans (RRSPs).

2.7. (In)Adequacy of Seniors' Income to meet Health Needs

Unfortunately if just over half of all seniors have access to some form of private pension income then, by default, just under half (45%) of all seniors do not (73). In 1999, Statistics Canada reported the majority (62.2%) of seniors relied heavily on Canada's two public retirement income programs (OAS/GIS and C/QPP) as 77% of their

income came from the first two (public) levels of Canada's retirement income system (73). The adequacy of Canada's public programs to cover seniors' basic necessities, including nutritious food, is paramount, pointing to a critical need to examine the issue of income-related food insecurity in seniors within a Canadian context (12).

Statistics Canada reports 6.8% of all seniors in Canada are living under the Low Income Cut Off (LICO), Canada's unofficial poverty line, and over 17% of unattached seniors live below the LICO (23). In Nova Scotia, seniors fare much worse than national rates. The 2001 Census reported that 15% of the population of Nova Scotia over the age of 65years live below the LICO (8). Nova Scotia also has a higher percentage of GIS recipients than the national average: 44% compared to one-third nationally (81).

Community-living seniors with lower incomes have many expenses competing for a share of their meagre income. In Nova Scotia, data from the 2004/05 provincial food costing study (17) were used to create four hypothetical senior households to examine the adequacy of public pensions to cover their monthly basic expenses, including food (12). Previous published research has used similar methods to examine the adequacy of social assistance in Ontario (25) and minimum wage in Nova Scotia (13) for non-senior households.

Results of our work (12) indicate that single member senior households are at risk for inadequate financial resources and therefore at increased risk for food insecurity. Two-thirds of seniors in NS living below the LICO are women living by themselves (8). Women are more likely than men to neglect to subscribe to the Guaranteed Income Supplement, a benefit for lower income seniors, when eligible (23). Earlier research by social statistician and policy analyst, Richard Shillington (82) and The Toronto Star

revealed that approximately 300 000 eligible seniors had not applied for the GIS (83). Since this time the House of Commons' Standing Committee on Human Resources Development and the Status of Persons with Disabilities provided government with steps to rectify this and notify eligible seniors of the GIS (83). In today's figures, the lost income resulting from not applying for the GIS benefit could result in a loss of up to $566.87/month (79). This extra income would be critical in helping senior women afford a basic nutritious diet. A recommendation coming from the study was to implement an automatic renewal program for the GIS to ensure seniors in financial need are certain to receive their Guaranteed Income Supplement (12).

Qualitative studies examining money allocation to bills suggest that the grocery bill is the most flexible part of the household budget (9, 37). In order to avoid a loss of necessary amenities, it is important that shelter, heat, and water expenses be paid each month and on time. Ever rising medication bills also demand a portion of seniors' income. Seniors spend more on medications than any other age group in the country (65) and the amount of medications they take has increased (53). American research involving seniors using various food assistance programs shows that seniors are forced to make decisions about choosing medication over food, and 'tightening their belt' to pay the bills (19, 32, 37, 69, 70).

As detailed in Section 2.3.3, there is a link between poverty and the inability to afford adequate amounts of nutritious food, increasing risk for malnutrition and chronic diseases. Compounding this relationship, health issues (including physical disabilities) have a much larger influence on seniors' food security status compared to younger generations (19). Health problems increase with age (37, 84) exacerbating physical

impairment. Over a decade ago, Canadians 65 years of age and older accounted for 11% of the population, and it was estimated that they consumed 30% to 40% of the medical and nursing expenses (85). Today, the growing senior population still consumes a disproportionate amount of hospital beds and of health services compared with younger populations (33).

Wolfe et al. (1996) found that poor health in seniors contributed to food insecurity through high medical bills and medicine costs, restricted mobility, and the need for therapeutic diets. Another American researcher proposed that studies using the poverty level as a sampling criteria may actually underestimate the prevalence of food insecurity in seniors because other factors, a main contributor being medical expenses, divert income from food (70). It has been noted that the cost of purchasing a Nutritious Food Basket modified to meet heart healthy recommendations (e.g. low fat, high fibre diet) was 12-18% greater than purchasing the regular basket in Nova Scotia in the mid 1990s (15). Not only do many health issues require potentially more expensive therapeutic diets; they can restrict mobility (walking, ability to drive) and hinder a senior's ability to get to a grocery store, which also compromises one's food security status. In Keller's study which indirectly examined components of food security among Canadian seniors (68), when examining the subset of participants with income less than $20 000/year, there was no significant difference between the number of participants who could go grocery shopping or partake in meal preparation activities independently versus dependently.

Dependent

The definition of food security acknowledges that food security is dependent not only on economic access, but also physical access (1); this two-pronged requirement is

unfortunately not translated into measurement tools. To date, prevalence rates of food security/insecurity are generated from money-centred questions. Unfortunately it is highly probable that seniors who have the money to purchase foods are assumed to be food secure, when in reality they may be unable to access food for other reasons such as poor health. It is possible that food insecurity rates among Canadian seniors may be underreported due to the limitations discussed in Section 2.8 in how individual and household food insecurity is currently measured.

2.8. Measuring Food Insecurity

There are direct and indirect ways to measure food insecurity. Statistics Canada, sometimes in coordination with other national departments, provides rigorous cross-sectional national surveys that measure many variables, income-related food security being one of them. These surveys, along with indirect measures such as measuring food bank usage, socioeconomic status, adequacy of income and the living conditions, and homelessness among seniors assist in assessing the food insecurity situation among this vulnerable population.

2.8.1. Direct Measures

Ideally, a direct measure captures underlying behaviours and experiences characterizing individual and household food insecurity, and provides a way to quantify the various stages of severity (29). Food insecurity is a multi-faceted concept experienced in different ways by different households, and a tool to measure food insecurity needs to be reflective of this reality. One single measure may not be acceptable for all Canadian populations. Levels of validity and reliability may not be

consistent when used across different age cohorts (37) since it has been suggested that seniors do not experience food insecurity exactly as younger groups do (19).

American studies reveal that seniors do not experience the phenomenon of food insecurity as a dichotomy but rather as episodic, or varying, along a path that is dictated by time and severity (19, 32). As noted, health and world view also play a larger role in older populations compared to younger ones. Data collection tools need to be sensitive (able to identify all seniors who experience food insecurity), specific (able to properly classify those not food insecure), and broad enough to capture accurate prevalence rates.

2.8.1.1.National Surveys

The National Population Health Survey: 1998-99 Food Insecurity Supplement (26) and the Canadian Community Health Surveys Cycles 1.1 (2001) and 2.2 (2004) (86, 87) are the three main national surveys that are used to estimate income-related food insecurity rates and that contain data on senior populations.

Human Resource Development Canada[4] (HRDC) developed the National Population Health Survey (NPHS): 1998-99 Food Insecurity Supplement through consultation with respective American food security measurement instruments designed to assess individual and household food insecurity at the national level (88). A major strength of HRDC's tool was that it acknowledges the influences of severity and time on how an individual or household may experience food insecurity (29). Containing over 50 different questions, the Food Insecurity Supplement provided insight into the degree of severity (food anxiety, food insecurity without hunger, to food insecurity with hunger) and asked questions of periodicity (food insecurity experienced more often at certain times of the month or year).

[4] HRDC is now Human Resources and Social Development Canada.

Unfortunately, the Supplement focused exclusively on child food insecurity at the individual level (29), which could result in underreporting individual adult and household food insecurity for two reasons. First, studies in Atlantic Canada have shown that low income lone mothers restrict their own intake before limiting their child's (10). As a result, child hunger is usually only seen in households that are most severely affected by food insecurity because mothers will sacrifice their intake first. If this tendency is true across the country then the Food Insecurity Supplement may not be accurately capturing individual food insecurity prevalence rates. Second, there is a strong stigma associated with not being able to provide for your children, and with that comes the potential fear of losing custody if parents were to report inadequate resources to feed their child. This once again suggests that the Supplement may not have accurately captured true prevalence rates of adult food insecurity at the individual level.

Overall, the 1998-1999 NPHS found that 10.4% of all Canadians experienced food insecurity in the previous year (26). Breaking down results by age groups, of those persons aged 65 years and older, 3.9% reported experiencing food insecurity (26). Almost 6% of respondents receiving Canada Pension Plan, Quebec Pension Plan, Old Age Security or Guaranteed Income Supplement as their main source of income reported being food insecure (26).

The Canadian Community Health Survey (CCHS) replaced the NPHS in 2000. Data collection for CCHS Cycle 1.1 began in September 2000 and involved 130 000 participants from 136 different health regions across the country (21). The survey contained 28 different health-related themes and questions regarding health status, use of

health services, determinants of health, as well as gathering demographic and economic information. Surveys were conducted by telephone or in person.

The food security component of the first CCHS contained three questions pertaining to food insecurity - a far cry from the more than50 questions in the NPHS Food Security Supplement. The three questions addressed food anxiety, lack of quantity, and lack of quality, all due to insufficient finances. Although lack of income is a major determinant, food insecurity can also be caused by other factors. These factors that are specific to seniors include health problems, mobility issues, and psychosocial issues, all of which can affect access to nutritious food. CCHS Cycle 1.1 data estimated that 14.7% of all Canadians and close to 5% of seniors were food insecure in 2000 (86). Nova Scotia was above the national average, reporting 17% of its entire population as food insecure (86).

CCHS Cycle 2.2 data were collected in 2004 and provide information on over 33,000 units (a unit could be a single person, or a member of a household answering questions on themselves and on behalf of the household) (7). All interviews took place face-to-face between trained data collectors and participants. In this second round, the Food Security Module was much more extensive when compared to Cycle 1.1, including a total of 19 questions focusing on anxiety, quality, and quantity aspects of accessing food.

CCHS Cycle 2.2 provides the most recent prevalence data on food insecurity in Canada. It is estimated that 9.2% of all Canadian households experience some form of food insecurity; Nova Scotia continues to be above the national average reporting 14.6% - the highest prevalence of all the provinces (7). Consistent with CCHS Cycle 1.1 data, at

the national level, almost 5% of Canadian households with pensions/seniors' benefits as their main source of income report experiencing moderate or severe food insecurity in 2004 (7)

It is plausible that figures from national surveys underestimate the true prevalence of food insecurity among seniors in Canada because these surveys are not sensitive to factors other than economic constraints that impact the ability to obtain adequate nutritious meals. Factors such as functional ability (19, 69), cognitive capacity (20), isolation (36, 70, 89), and transportation difficulties (70) have all been noted to play a large role in determining the food security status of seniors.

Another factor that could account for underreporting among seniors is that seniors may interpret food insecurity questions differently than younger participants, possibly due to their world view and past experiences (32). Throughout Canada's history, certain decades saw great changes in the economic landscape of our country. Older adults who experienced the Great Depression may have a different sense of food security as they are able to recall a period in history when they were forced to go with considerably less, and in some cases no food or necessities. As a result, a senior's current status may be considered food insecure by standard definition; however, the individual senior may believe that their situation is bearable and therefore he or she would not self-report their situation as food insecure (19, 32).

Two other historical events that could impact the perception of food security among some seniors are surviving World War I and/or II and the food rationing associated during these traumatic times. Some researchers suggest that today's older population can assume cognitive adaptive strategies to maintain an acceptable level of

well-being in the face of adversity; experiences in their past may allow them to embrace hardships better than today's younger generation (35, 36).

Collectively, previous life experiences and the multiplicity of factors beyond finances can create additional challenges to developing a survey to accurately measure the proportion of seniors who are food insecure.

2.8.2. Indirect Measures

Beyond direct measures, other quantifiable methods compliment our ability to estimate rates of food insecurity and hunger in Canada such as exploring data on food bank use, adequacy of income, and the living situations of seniors (90). These proxy measures provide important information about the extent of the phenomenon of food insecurity. As well, they help identify factors leading to food insecurity and expose commonly used strategies to manage food insecurity.

2.8.2.1.Food Bank Use

HungerCount, a yearly publication released by Canadian Association of Food Banks (CAFB), is the only national survey of emergency food programs in Canada. In March 2007 a total of 720 231 individuals accessed a food bank across Canada (91). The report only distinguishes between adult vs. child use, and does not examine age brackets within the adult group; however, 6.1% of food bank users' primary source of income was a pension, suggesting they were at least older adults if not seniors. In Nova Scotia 18 417 individuals accessed a food bank in March 2007, and 10.4% report receiving a pension (91). In 2006 the percentage of Nova Scotia seniors visiting a food bank was the highest among all the provinces (92) and in 2007 the percentage of food bank users reporting pension as a primary source of income increased by over 40% (91). This

drastic change was attributed to increases in the cost of living and increased health care costs; any increase in monthly expenses can be difficult to manage when households only receive a fixed monthly income from public pensions.

2.8.2.2.Poverty Rates

With 6.8% of all seniors and 17% of all unattached seniors in Canada living under the Low Income Cut Off (23) there is ample reason to believe that a number of unattached seniors may be experiencing income-related food insecurity. Many seniors live on a fixed monthly income (22). The income source for these seniors is generally provided by Canada's public pension systems - Old Age Security and/or the Canada Pension Plan. These systems are not designed to meet all the financial needs a typical senior will face (72). However, they provide the only source of income for more than a quarter of the senior population (22), and the main source of income for over two-thirds (23).

2.8.2.3.Living Conditions

Households that are unable to afford adequate, suitable, and affordable shelter are considered to be in core housing need; this is usually quantified as households spending more than 30% of their income on shelter (93). According to 2001 data from the Canada Mortgage and Housing Corporation (CMHC), 286 000 senior-led households living in rentals in Canada are in core housing need (94). National data have shown that those who rent are at greater risk for food insecurity than home owners (7, 26). Almost 28% of all types of renting households in core housing need are senior-led households (94). Of seniors who live alone and rent, over half (53.3%) are in core housing need (94).

The situation is even worse for female seniors: over 56% of women aged 65 years and older living alone in a rental accommodation are in core housing need; this household type represents the highest incidence of housing need (94). Senior women who rent and live alone account for only 10.2% of all renting households but represent 19.1% of all renting households unable to find acceptable housing (94).

The Nova Scotia Government offers a Seniors Rental Housing program managed by the Housing Authorities at the municipal level. This program offers over 9000 older adults (58 years and over) subsidized rental apartments across the province (95). Having access to subsidized housing would greatly benefit lower income seniors. Currently, 4% of seniors in Nova Scotia access the program (8). The criteria for eligibility are based on income, residency, and core need. Lack of access to affordable housing is a concern, as seniors spending disproportionate amounts of their income on rent have less to spend on food.

The Halifax Regional Municipality, the largest municipality in Atlantic Canada, prepared a document on homelessness using data from the 2001 Census, Federation of Canadian Municipalities Quality of Life Reporting System and a one-night survey of streets and shelters in the metro area. The snap-shot survey, reaching 269 homeless individuals, found 5% to be above the age of 65 years (96). The National Advisory Council on Aging's 2006 Report Card relayed homelessness statistics from the 2001 Canadian Census and reported that nearly 10% of shelter users across the country were seniors (53).

The above problems associated with living conditions are often due to income inadequacies, which force seniors to live in sub-par housing, no housing, or housing which costs too much, therefore diverting too much money from the food budget.

2.8.3. Why Measuring Food Insecurity is Important

Measuring food insecurity among seniors is necessary in order to monitor the adequacy of policies and programs in place so that food security and quality of life can be ensured for the aging population. Without such measurement it is difficult, if not impossible, to assess the impact that various strategies (or lack of strategies) have on senior households experiencing barriers to accessing food. Measurements need to go beyond questions that are strictly focused on income and financial resources. A thorough understanding of how seniors experience food insecurity is necessary to develop accurate questions for tools to assess seniors at risk for food insecurity (32). Currently this understanding does not exist in the Canadian context. Understanding of the enablers and barriers to achieving food security would contribute towards developing ideal direct measures of food security status, it will also help develop and improve policies and programs (i.e. strategies) to appropriately improve the nutritional and food security status of all seniors.

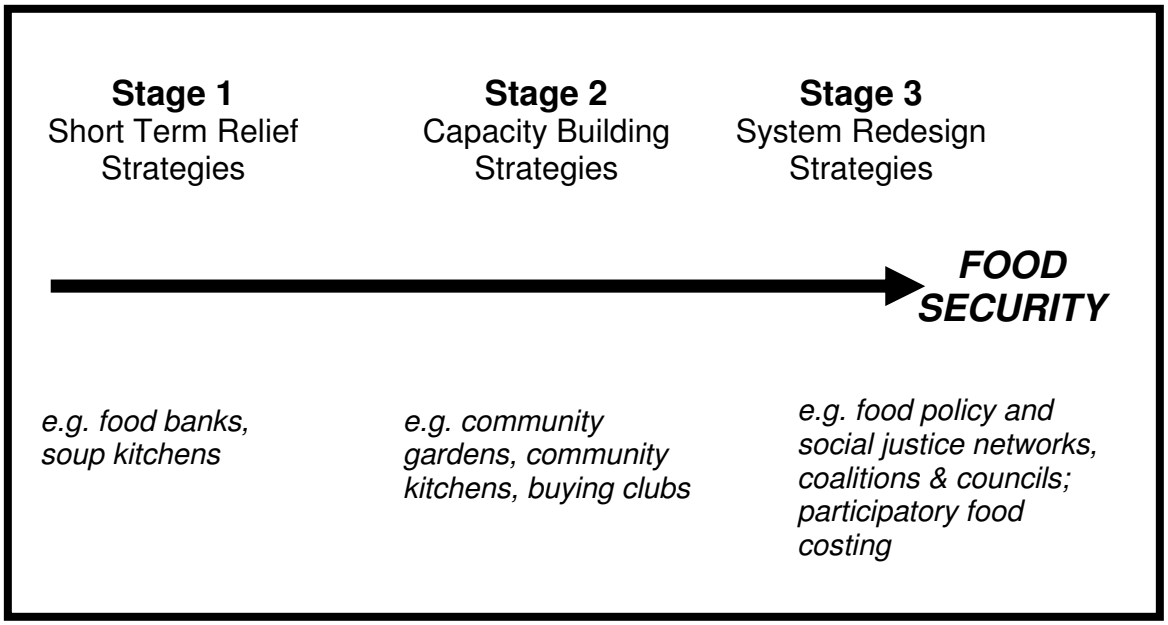
2.9. Strategies to Alleviate Food Insecurity

Responses to hunger and food insecurity are carried out at personal, community, organizational, and governmental levels. A study conducted in North Carolina examined how rural elderly households manage food security and identified various personal strategies implemented by participants to maintain food security or to get through insecure times. Gardening, preserving, and freezing were all strategies seniors used in

attempts to maintain adequate food stores, as well as tapping into social networks by borrowing from neighbours, receiving food gifts from church members, and depending on family (37). Also, some seniors reported their faith in God helped them remain food secure, testifying "sometime I don't have no nothing to get food with, but the Lord'll make a way, somehow or another" (37)p.365.

Beyond the personal level, there have been numerous responses to address food insecurity at community, provincial and national levels. Researchers and community activists have established three broad categories under which strategies addressing individual and household food insecurity may fall: short term relief strategies, individual and community capacity building strategies, and system change or redesign strategies (Figure 1). These categories exist on a continuum, allowing strategies to be interrelated and built upon in order to address the root causes of individual and household food insecurity such as inadequate income, inequality, and social exclusion (97-99).

Figure 1. Continuum of Strategies to Address Food Security
Source: (98) ***adapted from:***
(97, 98, 100, 101)



Short-term relief actions provide immediate, albeit temporary relief from hunger and food insecurity. These relief efforts act as band-aid solutions. The types and amount of foods delivered through food banks have always been a concern, as they may not provide adequate nutrition for users (102). Valid apprehensions about the variety and quality of foods, ease of preparation, cultural acceptability, and appropriateness for therapeutic diets are present. In Nova Scotia, 38% of seniors reside in rural areas, making physical access to a food bank or soup kitchen also an important consideration (8).

Another issue with short term relief is that many of the individuals and households to whom these programs are targeted are not utilizing them. An abundance of evidence supporting this idea can be found by examining the American Food Stamps program. A study analyzing data from the Women's Health and Aging Study looking at

1 002 community-dwelling disabled women aged 65 years and older found only 19.3% of the women who reported economic difficulty when accessing food were actually receiving food stamps, and only 6.5% participated in meal programs (103). Canada's National Longitudinal Survey of Children and Youth 1996 examined food bank use in younger populations, and found that only one third of participants who reported experiencing hunger would seek support from a food bank (90). These low participation rates suggest that short term strategies may not be effectively reaching all those in need.

Capacity building strategies have been described as the second stage of strategies used to address individual and household food insecurity. Capacity building is the development of skills, organizational structures, resources, and commitment to the improvement of health (99). In these strategies, individuals and communities experiencing food insecurity organize together to identify ways in which their food security may be increased. Initiatives are then put in place to build their skills, and as a result they improve their capacity to address the issues that are affecting them. Congregate meal sites, community kitchens, and cooking classes are all programs that can build individual skills and provide both nutritional and social support to seniors. (36, 104). These strategies targeted at seniors experiencing food insecurity provide them with ready access to resources such as a working stove and knowledgeable volunteers or staff (97, 98). The social interactions mediated by these programs may also help alleviate depression in seniors and increase motivation to cook or eat, resulting in improved nutritional intake (36, 70, 89).

At the end of the continuum of food security strategies are system change or redesign strategies that address the ways that social, political, environmental and

economic structures affect food security (97). Participatory food costing research is an example of a strategy that will generate data to influence policy on the adequacy of income sources to afford nutritious food. The following section briefly explains how this strategy is carried out in Nova Scotia and how findings are being used to highlight policies directly affecting seniors' financial situation.

2.9.1. Food Costing in Nova Scotia

The purpose of food costing is essentially to collect evidence to advocate for, influence, and develop policies and programs that support a person's ability to buy nutritious foods (105, 106). Typically, food costing involves surveying grocery stores for the cost of a specific list of foods; often the list of foods is based on the National Nutritious Food Basket, which is a survey tool developed by Health Canada (106). In most parts of the country, food costing is carried out by dietitians, home economists, and researchers in academia (107); however, in Nova Scotia food costing is carried out in a participatory manner. Women involved with Women and Family Resource Centres[5] across the province help design the food costing projects, sit on steering committees and working groups, collect data, and help in the dissemination process. Having first voice representation at all stages of the research process helps strategically direct advocacy efforts while ensuring the research is conducted in a respectful manner (107).

Data from the 2004/05 food costing project (108) were used to develop four senior-specific affordability scenarios (12). Affordability scenarios compare monthly income against basic monthly expenses to evaluate if there are adequate funds at the end

[5] Certain Canadian Prenatal Nutrition Program (CPNP) and Community Action Program for Children (CAPC) funded Family Resource Centres in Nova Scotia partnered with the Nova Scotia Nutrition Council and the Atlantic Health Promotion Research Centre to conduct a series of food costing projects. CPNP and CAPC are community-based programs targeted to families living in conditions of risk.

of the month to purchase a nutritious diet. Similar methods assessing adequacy of resources to purchase nutritious foods have been documented in literature examining welfare rates in Ontario (25) and minimum wage rates in Nova Scotia (13).

Applying provincial food costing data to senior affordability scenarios demonstrates that seniors living alone and relying solely on public pensions are more likely to have inadequate funds at the end of the month to purchase a nutritious food basket, putting them at increased risk for food insecurity compared with senior couples. These results clearly show that Canada's public pension system does not ensure food security for all Canadian seniors. Importantly, this research provides evidence to help advocate for better policies and programs that support a senior's ability to buy nutritious foods, prevent chronic disease, and ultimately improve their quality of life.

2.10. Conclusion

American research has shown that the experience of hunger and food insecurity exists within found two dimensions: an individual dimension and a household dimension, and each dimension contains four components: quantitative, qualitative, psychological, and social (30). While this conceptualization of hunger and food insecurity was uncovered working with lower income mothers, it also holds true in the American senior population (32). However, health and health problems play a larger role in seniors' experience of food insecurity compared to younger populations, as do seniors' world view and their previous life experiences (19).

Low income is a major determinant of food insecurity (1), and food costing data suggest that lower income seniors living alone cannot afford the cost of a nutritious diet (12). However, national prevalence rates of food insecurity in seniors (7) are consistently

lower than corresponding poverty rates (8), suggesting that financial factors play a role, but perhaps not as significant a role, in how seniors experience food insecurity compared to younger populations. Poor seniors are not identifying themselves as food insecure, and so the literature leads us to question if we truly have an accurate understanding of how food insecurity is experienced among Canadian seniors, and if the food insecurity rates among seniors have been accurately captured. How do seniors' health status and world view influence their perception of their food status?

Unfortunately, questions developed to assess the food security status of Canadians in this country's past two national health surveys, the Canadian Community Health Survey 2001 and 2004, did not incorporate factors beyond adequate income, thereby bringing into question the adequacy of these questions for monitoring current food insecurity rates. Qualitative data are needed to provide a way to incorporate health, cultural and personal issues that affect seniors' perception of food insecurity within a Canadian context. These issues will vary from region to region and in order to be more effective, programs and services created to alleviate food insecurity need to incorporate these values and beliefs.

This thesis will lay the groundwork for compiling health, cultural and personal factors affecting how a particular sub-population of seniors – lower income senior women living alone in urban Nova Scotia- attempt to maintain food security.

3. THEORETICAL FRAMEWORK & METHODOLOGY

3.1. Introduction

An ecological model was used to frame the participants' perceived realities regarding their food security/insecurity experiences, the enablers and barriers to accessing food, and the constructed affordability scenarios, in order to guide the approach to answering the research question and subsequent objectives. Ecological models reveal that individual behaviours such as food procurement patterns are influenced by biological, demographic, psychological, social/cultural, environmental, and policy variables. Brofenbrenner's Ecological Systems Theory (109) was used as a framework to examine the many different areas in the seniors' environment where these variables exert their influence. Because food security is such a large and complex issue with many determinants influencing its attainment (110), this theory provided a systematic approach to examining the layers of seniors' environments to uncover the multiple and varied influencers. Bronfenbrenner's work provides a model to examine senior women in their immediate environments and then examine their situations more broadly so as to determine how their microsystems (i.e. their behaviours) are mediated by more remote regions of their physical and social milieus.

The methodological approach used was phenomenology, with the phenomenon of interest being how lower income lone senior women experience and manage food insecurity. A phenomenological approach seeks to arrive at a structural description of the experience and expose the underlying and precipitating factors that account for what is being experienced.

3.2. Theoretical Framework

Bronfenbrenner's Ecological Systems Theory is a model of environmental interconnections and how these interconnections impact the forces that directly affect seniors' ability to access food. The environment that shapes seniors' lives can be dissected into four layers: the microsystem, mesosystem, exosystem, and the macrosystem (109). Additional to these four layers is the chronosystem, encompassing the element of time (111). These five systems and their place within the ecological framework are illustrated in Figure 2.

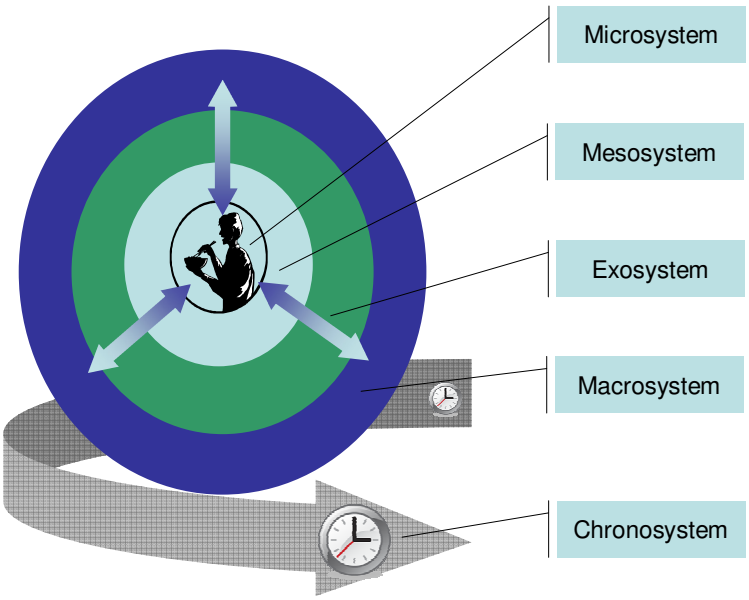


Figure 2. Bronfenbrenner's Ecology Framework
adapted from (109, 111)

The microsystem is the layer closest to the senior and contains the structures with which the senior has direct contact. These structures could include family, neighbourhood, seniors' organizations, church, etc. At this level, relationships impact the

senior in two directions: away from the individual and toward the individual (109, 112). Bronfenbrenner defines these influences as bi-directional (109). For example a senior gives to her church by volunteering at a church soup kitchen, while receiving spiritual nourishment from the pastor and church family. The relationship between the senior and her pastor constitutes a dyad, when two people pay attention to or participate in one another's activities (109). Dyads are the building blocks of the microsystem and the formation of larger interpersonal connections. Involving a third person results in a triad, four is a tetrad and so on. Again, these relationships constitute the senior's personal environment.

The mesosystem is the connection between and among the everyday settings of the senior. It provides the link between the structures of the senior's microsystem (109, 112). These connections can be physical, as in *multi-setting participation*, where the senior spends time at both her home and a seniors' centre, for example. The connections can also be made via *indirect linkage*, where a connection is established through a third party. For example, a Meals on Wheels delivery person may connect a senior at home with a congregate dining site in the community. Connections can be established via *inter-setting communications*, where messages are relayed with the express purpose of providing specific information to people at one setting from another setting. Tele-help lines would be an example of this. The fourth and last type of interconnection between microsystem structures is *inter-setting knowledge*, which refers to information or knowledge that exists in one setting about another setting. Knowledge can be obtained about a setting in many ways. For example, a senior could visit a site (e.g. a new Long Term Care facility), be told about a new site from someone else who visited, or read

about the new place in a newspaper. The senior is involved in this mesosystem environment albeit not as intensely, and the individual will not have as much control at this level because it will always involve influence from another party. Bi-directional influences still can occur here depending on the level of involvement the senior has with the structures of her microsystem.

The exosystem is the larger social system in which the senior does not function directly but finds her everyday experiences (sometimes unknowingly) influenced by structures in this system. This system serves regulatory and controlling functions in that policies are enacted that mitigate the everyday settings and human behaviour at the meso and micro levels. An example of an event which could occur at the exosystem level would be the federal government passing an act affecting how often the Old Age Security basic pension and the Guaranteed Income Supplement were adjusted for inflation according to the Consumer Price Index. Seniors' spending behaviours are influenced by how much monthly income they receive; however, bi-directional influences still occur between the microsystem and the exosystem because seniors are able to vote democratically and contact their government representative to voice their opinions on matters in the House of Commons.

The macrosystem is the outermost layer in the senior's environment comprised of cultural values, customs, and laws (109, 112). The effects of larger principles defined by the macrosystem have a cascading influence throughout the interactions of all other layers. For example, if it is the belief of the culture that adults should be solely responsible for securing their financial future, that culture might be less likely to provide resources to help seniors. As a result, positive changes to Old Age Security may be less

likely, and programs targeted to lower income seniors may not receive adequate financial and human supports to address this population's needs.

Overarching all four layers is the chronosystem. The chronosystem encompasses the dimension of time as it relates to a senior's environments (111, 112). Elements within this system can be either external, such as the timing of a friend or family death, or internal, such as the physiological changes that occur as a result of aging. As seniors age, they may react differently to environmental, social, and political changes, and may be more able to determine how that change will influence them as they draw on previous knowledge and life experiences to inform their decisions.

The five environmental layers discussed in Bronfenbrenner's Ecological Systems Theory will be the template for examining the enablers and barriers to accessing food for the participants. Findings from the second research objective will provide insight into how influences at all levels can affect women's food procurement behaviours.

The interaction of structures within a layer of the ecosystem, and interactions of structures between layers is the key component of this theory. At the microsystem level, bi-directional influences are strongest and have the greatest impact on the senior; however, interactions at the outer layers can and do still impact the microsystem.

The role of policy in this model is a major issue as Bronfenbrenner developed this unique ecological approach for examining human behaviour and development. Policies can occur at every layer of the framework. Whether personal, institutional, organizational, or public, policies influence the foods seniors are able to eat. A personal policy will act at the microsystem (e.g. a senior chooses to buy only low sodium foods because she has high blood pressure.) The main concern at the meso-level is whether

food is available to the senior and her community. Meso-level forces may include how the community responds to hunger (such as establishing a soup kitchen or food bank). Public transportation could be an example of a policy in the exosystem; a senior who is reliant on this public service has no control over the schedule or fares but is dependent on it to make appointments, shop for groceries, and carry out many aspects of her daily life. An example of a public policy infiltrating all layers of the macrosystem would be a policy dictating the amount of money received via Old Age Security to a lone senior woman. This amount would determine the type of housing she can afford and therefore the community she resides in, how much disposable income she has for transportation to the grocery store, and the amount and kinds of groceries she can purchase after considering all the other essential expenses that she has that month.

The amount of nutritious foods in seniors' grocery carts and cupboards may be partially explained by a public policy, which trickles down through the various layers of the ecosystem, to alter environments where it is easy or difficult to access nutritious foods. Population-wide improvements to food security will only occur when policies are created that affect as many levels of the ecological framework as possible, including intrapersonal, social, cultural, and environmental levels.

In order for decision makers to effectively decide where to place their efforts (i.e. what programs or policies to target first) a thorough understanding of how seniors experience food security is necessary. Using Bronfenbrenner's ecological model and extracting influences (both barriers and enablers) to affording and accessing food at the micro, meso, exo, macro, and chronosystems levels will help focus and tailor necessary strategies to achieve food security. This ecological model provided a framework during

the analysis process to describe the relationships between senior participants and the internal and external forces acting on their lives, in turn affecting their ability to access nutritious foods. The theory inherent to this framework will be the driving force behind exploring the factors that seniors identify as influencing their food security and examining where these factors lie within the seniors' ecosystem. Whether they lie within the intrapersonal, social, cultural, environmental, or policy level will help dictate the level of control the individual senior has on that factor. Its location within the ecosystem will also expose to the greater community (e.g. government, policy makers, program planners, etc.) the power they may have, despite no direct contact with seniors and those experiencing food insecurity, over their ability to access food.

3.3. Methodological Approach

To gain a thorough understanding of how seniors experience food insecurity a phenomenological approach will be taken. A phenomenological inquiry asks "What is the structure and essence of experience of this phenomenon for these people?" (113, p69). In this case the phenomenon of interest is food insecurity in lower-income lone senior women. This study intends to reveal how these women living in the community describe and interpret their experiences of procuring food. A phenomenological approach goes beyond simply describing an experience; it seeks to arrive at a structural description of the experience and expose the underlying and precipitating factors that account for what is being experienced (114).

Phenomenology is interested in uncovering the meaning of behind a phenomenon. This study seeks to describe and understand the meaning of food insecurity amongst lower income senior women living alone. The various sources of meaning come from the

everyday life experiences of the participants, their language, and from examining the various levels of environment (meso, exo, macro and chronosystems) shaping their lives.

3.4. Marrying Theory and Methodology

In phenomenology, both description and interpretation are necessary in order to understand a phenomenon (113). The researcher must appreciate that there is no separate or objective reality for participants; there is only what they know their experience to be and what it means to them (113). A participant's interpretation of the experience is their reality. This idea complements one of the key concepts of Bronfenbrenner's model where it is understood that the model is concerned with exploring the environment as perceived, versus the environment as it exists in objective reality (109). Bronfenbrenner stresses that although an intervention works well in the laboratory, it may not necessarily be effective in actual life settings. This concept can be personified in the elderly woman who, despite being fully eligible for the Guaranteed Income Supplement, is unaware of this additional support or sees the process to attain the supplement too cumbersome and time consuming and therefore does not access it.

The ability to place the various factors influencing seniors' ability to access food in the context of micro, meso, exo, macro, and chronosystems will help carry out the goal of phenomenology, which answers the question "How did the experience of the phenomenon come to be what it is?" (114)pg 91. Identifying where the enablers and barriers exist within seniors' environments will assist in exposing how the factors regulate and control seniors' lives beyond what they know to be true.

Both phenomenology and Bronfenbrenner's ecological systems theoretical framework appreciate the role of culture, or settings when collecting and analyzing data.

The assumption that culture exists and is important is essential for phenomenology; a phenomenologist will analyze data from multiple participants and reduce them down to basic elements common to all members of a specific society. Truths are unique to each participant but a commonality in human experiences is assumed and it is up to the researcher to search out these underlying themes (113, 115).

Settings and structures are also very important within an ecological framework when analyzing data. Settings can include the home, church, the streets, etc., and tend to have similar characteristics within a culture (e.g. a rural culture). Between cultures, however, settings can be distinctly different and this needs to be acknowledged and data from different cultures need to be analyzed accordingly (109). Settings should also be analyzed according to their structure (e.g. one member versus two member households). The importance of settings and structure in an ecological system is duly noted in this research by the fact that all participants in this current study are from a similar setting (urban Halifax Regional Municipality) and live alone. The concept of settings and structures within this model also further validates the need for Canadian data on seniors' experiences of food insecurity despite American findings already in existence.

It could be argued that incorporating affordability scenarios into the data collection phase of this research by presenting them to participants during interviews may be inconsistent with phenomenological approaches. Affordability scenarios used in this study displayed hypothetical lone senior women's monthly income and expenses. The hypothetical households constructed suggest that lone senior women do not have enough money from public pensions to purchase a nutritious diet and are at risk food insecurity (12). The scenarios could frame the experiences of the participants as they only show

one example of the phenomenon of interest- they assume financial limitations is the main factor for experiencing food insecurity. Affordability scenarios are introduced to the participants as previous research has shown that some seniors, who by definition are food insecure, do not self-report/consider themselves food insecure (37). Thus the affordability scenarios are used as a tool to encourage a discussion around the phenomenon of interest. In this research, affordability scenarios will be used to find out 'what gives and what gives first' as seniors allocate their monies to afford their various necessities. Attention will also be given to ensure that they draw out experiences around how other factors such as health concerns, transportation issues, etc. affect their ability to access food.

The scenarios do not provide a sufficient reflection of the complex myriad of factors affecting food security; hence the need for this qualitative research using a phenomenological approach to describe and interpret how food insecurity is experienced. While the scenarios provide a framework through which to analyze the adequacy of public pensions, they address only one factor influencing the achievement of food security. Bronfenbrenner's ecological framework provides a model through which to examine the multiple factors contributing to a seniors' food (in)security and how decisions made at the many levels of a lone senior woman's environment impacts the microsystem and the types and amounts of food accessible to her.

4. RESEARCH DESIGN

4.1. Introduction

Chapter 4 details how participants were recruited for this study, the ways in which data were collected, the type of data and information gathered, and how the data were managed and analyzed. Methodological limitations that this study encountered are acknowledged, and the Chapter ends with a discussion of the ethical issues taken into consideration through all phases of the research process.

4.2. Participant Recruitment and Selection

Sampling for this study was done using recruitment, purposive, and snowball sampling methods. Based on recruitment successes of previous studies focused on seniors using site-based approaches, such as working with health care agencies and seniors' centres to gain access to study participants (19, 32, 37, 69, 116), a similar approach was used in this study. Through my volunteer work (Ecology Action Centre's Food Action Committee) and my academic work (The Nova Scotia Participatory Food Security Projects and teaching a university nutrition course), I am well connected to many community organizations servicing lower income and/or food insecure individuals. In May 2007, information packages regarding this study were mailed to five different organizations. Another organization was contacted in June 2007, and two more were mailed packages in July 2007. Table 5 lists the community organizations contacted.

Table 5. Contact Sites for Participant Recruitment

Name of Organization	Geographical Area Represented
Captain Spry Community Centre	Spryfield and surrounding area
Dalhousie Legal Aid Service	Nova Scotia
Feeding Others of Dartmouth	Downtown Dartmouth
Meals on Wheels	Dartmouth and surrounding area
Metropolitan Regional Housing Authority	Halifax Regional Municipality
Spencer House	South End Halifax
St. Paul's Family Resource Institute Inc.	Spryfield and surrounding area
Public Good Society of Dartmouth/ Connections that WORK	Dartmouth and surrounding area
V.O.N. of Greater Halifax	Halifax Regional Municipality

Information packages contained a cover letter (Appendix A), the informed consent form (Appendix B), the Affordability Scenarios (Appendix C), and a sample recruitment poster (Appendix D). Any organization that did not contact me upon receiving the information packages received a follow up email or phone call two weeks after the mail out. Six of the organizations invited me to meet with them to discuss how they might get involved with my study. Two of the organizations provided actual names of clients who they thought might be interested in the study. In these cases the organizations first contacted particular clients to see if they would be interested in participating in the study, and if so the women consented to having their information passed on to me. The VON allowed me to send out recruitment posters via the home meal delivery service they provide. Metropolitan Regional Housing Authority administers a Seniors Rental Housing program; representatives from this program provided contact names (e.g. building managers or social committee chairs) for four seniors' manors in the

Halifax Regional Municipality (HRM). Recruitment posters were posted in two of the manors, and two of the manors brought my study forward at their social committee meetings. In one manor I was invited to give a public talk in the Common room regarding my study for recruitment purposes and to speak and field questions on nutrition topics in general.

4.2.1. Eligibility Criteria

Participants eligible for this study were women who were 65 years of age or older, who lived by themselves in a non-institutionalized setting (i.e. independent) in urban HRM, and who were in receipt of the Guaranteed Income Supplement.

These selection criteria were based on results from my previous independent study work as well as national data on poverty in seniors. Our previous work with provincial food costing data and affordability scenarios found seniors living alone were more at risk for food insecurity than those not living alone (12), which compliments national data that found poverty to be more common among seniors living alone (23). Poverty is also more common among older women, particularly those over the age of 80 years, compared to any other age and gender group (23). Establishing the criteria that participants must be receiving GIS implies participants were lower income; and this also allowed me to avoid asking for potential participants' annual income, a very personal question. This criterion also allowed for the possibility that seniors were not in charge of their finances (i.e. a child is power of attorney) and therefore they might not know their annual income; however, most seniors would be aware that they receive a monthly GIS cheque. Women living by themselves who had a spouse in a nursing home, hospital or other type of institution were ineligible to participate in this study.

Eligibility was confirmed when I contacted the senior participants to assess their interest in being involved and arranged an interview time. During the initial phone call, I asked the seniors their age, living arrangement, and whether they received a monthly GIS cheque; this happened with all potential participants except one, where these questions were asked in person.

Participant recruitment ceased after eight successful interviews when I reached theoretical saturation, meaning all new data collected was able to be categorized into pre-existing categories (117, 118). Seven main factors influencing how participants accessed the food they need and want were identified (Section 5.3). The first participant was associated with six themes, the second participant added an additional theme, and after the sixth interview at least three of the participants could be associated with all seven themes, however, two more interviews were conducted to ensure theoretical saturation (117, 118).

4.3. Data Collection

A direct approach to phenomenological inquiry was taken where I asked questions of the participants that brought about discussion and reflection on their subjective experiences acquiring food (115). Direct approach methods have been used in American research conceptualizing seniors' experience of food insecurity with success (19, 32, 37, 70, 119).

Data collection was facilitated by semi-structured face-to-face interviews with seniors fitting study criteria. Interviews took place over the course of four months between June and September 2007. An interview guide, (Appendix E) containing mostly broad, open-ended, semi-structured questions with probes and some closed-ended

questions, was used to stimulate discussion. This guide was formulated considering the findings of Radimer's work on the conceptualization of food insecurity and hunger with its individual and household dimensions and four components: quantitative, qualitative, psychological and social (120). Also, the guide was created with the intention of drawing out the two distinguishing features of how the elderly experience food insecurity compared to younger populations: health and world view (19). The guide was formulated to facilitate a generational lens in which to view food security. The interview guide was also strongly influenced by interview questions used in work done for the Institute for Research on Poverty by Olson, Kendall, Wolfe and Frongillo (119) in that many of the questions in their guide were modified for use in my thesis. Specifically the first six questions from their interview guide were used which helped collect information on how study participants procured and prepared food, their typical daily food routine, and asked questions about a time (if relevant) when they had difficulty getting enough food.

The interview guide was pre-tested with the director of a seniors' community centre, who is a senior herself, to establish face and content validity. Her opinion was also sought on the clarity and sensitivity of the questions and to assess if the interview process would be too burdensome on senior participants.

A pilot interview was conducted once ethics approval was received so I could become more comfortable and familiar with the interview guide and the interview process itself. The coordinator of a downtown soup kitchen recruited a woman on my behalf for this purpose. It was established when informed consent was gained that she was only 64 years of age, therefore not fitting study criteria. However, the pilot interview went ahead and the individual was able to provide constructive feedback on the guide,

and how the whole process made her feel. This was critical to further ensure face and content validity and that participants would feel respected and valued throughout their involvement. I also had the opportunity to personally analyze the interview process to assess how well it would draw out responses that would address the research question and objectives of this thesis.

A conversational style of interviewing was used in order to allow for greater flexibility to diverge from the interview guide and explore different issues that arose from the participants' stories. This style is consistent with phenomenological approaches to conducting qualitative research in that it respects that participants will be asked to reflect on their subjective experiences of food (in)security and that they may interpret their experiences quite differently from each other in a way that one single question may not help uncover for all.

Data collection began even before the audio recorder was turned on. Each woman graciously invited me into her home and a rapport was always established before the interview officially started. A couple of the women gave me a tour of their home, many showed off pictures of their children, grandchildren and great grandchildren, and shared stories about their families; they all also asked questions about me to get to know me better. I brought a journal to all interviews and noted relevant information they shared that was not recorded on tape.

All eight women signed consent forms and agreed to be audio recorded. To ensure they were comfortable with the technology, I recorded a brief conversation with them prior to the interview and played it back so they could hear how they sounded. This

exercise typically brought about laughter and made a more comfortable, less formal atmosphere.

Interviews began with the women detailing their current daily dietary practices, their typical meals, food preparation knowledge, how they get their food, etc. These unobtrusive questions revealed to me if the participants were getting the foods they needed and wanted, and allowed me to assess if they were food secure or not. Next I inquired about health conditions and if there were any self-identified enablers or barriers to eating nutritiously that they experienced.

Leaving the original format of the interview guide, I next typically introduced the Affordability Scenarios (Appendix C) developed through our work (12). A slight modification was made to our previous work to better suit it for this thesis in that the single male scenario was revised to show female appropriate food costs. Although the scenarios present money as the limiting factor to achieving food security, I used them in my interviews to encourage participants to compare their realities to the hypothetical scenarios in order to tease out issues relating to the quantitative, qualitative, psychological, and social aspects of their food situation. For example, talking about transportation costs would lead to conversations about how they got to the grocery store and how often they conducted shopping visits.

Knowledge of and involvement in senior-targeted community programs and services were also explored during the interview, either indirectly as the participant discussed her relationship with various programs or services, or directly from questions on the interview guide. Suggestions on how to alleviate food insecurity via program and/or policy reform were always welcomed and encouraged.

Interviews ended with each woman telling me what factor best helped her access the foods she needed and wanted, and her 'food security wish'; what did she wish she could have or what could happen to allow her to have better access to the foods she needed and wanted. These last two questions helped end the interview on a positive note and also allowed the women to have the last word.

During my time at the participants' homes, I took field notes in order to allow for the formulation of new or follow up questions to ask the participants. I also recorded contextual and situational notes to help me understand the senior participants' perspectives in the context of the conditions and circumstances of their personal lives. As well my notes provided descriptions of my own observations of their circumstances and thoughts about my role in the interview (113, 121).

The interview guide was modified and built upon for each new interview. Data were collected and analyzed concurrently, which enabled me to ask questions that would expand on emerging themes I identified from previous interviews. Two examples of this are adding a question around dentures and a question about preparation work involved with getting groceries (e.g. making a grocery list). Both of these new questions were added under Section 2 of the interview guide.

4.4. Data Analysis

4.4.1. Data Management

Personal interviews were digitally recorded and transcribed by myself and then imported into NVivo 7.0, a qualitative data analysis software program (QSR International, 2007). NVivo 7.0 allows for both open and hierarchical coding, and data and coding retrieval. Journal and field notes were also typed out. All data pertaining to

my research project were kept in a locked room and electronic files were password protected. Profiles were constructed to characterize each participant using pseudonyms, thus protecting their identities.

4.4.2. Analysis Procedures

Phenomenological analysis involves three steps: Epochè, phenomenological reduction, and eidetic variation (114); each step will be detailed below. Also, throughout the analytical process I continually revisited Bronfenbrenner's Ecological Systems Theory to remind myself that influences affecting why seniors eat what they do occur at many different levels and are not always apparent to the individuals themselves. This helped remind me to dig deep into the findings, respecting how they perceive their situation, yet also apply the theoretical model, and to help breakdown why their situation was occurring.

4.4.2.1.Epochè

The first step of phenomenological analysis is that of Epochè (113, 114). Here the researcher is to set aside any personal bias, prejudgments or preconceived ideas about the data. The transcripts are to be read from an open and naïve perspective, and every quality has equal value. Transcribing the interviews really helped me immerse myself in the data. As I typed I re-lived the interview, I made notes in my journal to look into programs or services that were mentioned, I would pull out themes, compare answers to other interviews, look for consistencies, and highlight differences. Often I made notes to myself in the transcripts to ask for clarification or more detail at the member check (if available). Listening to the digital recording, transcribing, and reading the interview

transcripts multiple times helped me capture the essence of what the women were telling me.

4.4.2.2.Phenomenological Reduction

The second step of analysis is phenomenological reduction (113, 114). This involves the task of describing in textual language the phenomena of interest. In order to do this, various levels of coding need to take place to analyze the data found in the transcripts. All transcripts were imported into NVivo. For the first two interviews I focused on thematic or open coding using what NVivo calls free nodes. Free Nodes do not assume relationships with any other concepts; this allowed me to capture ideas without imposing any structure on those ideas. As the interviews progressed I incorporated focused or selective coding into the analysis, creating tree nodes which bring about a hierarchical structure to the coding.

Because my research had three specific objectives, this required me to explore the same data, yet apply it differently to answer each objective. I kept a log of general and obvious themes generating from interviews in a separate journal; this was to help with the first research objective. I also kept a log of specific enablers and barriers to achieving food security categorized by Bronfenbrenner's five layers of the environment in order to help with the second research objective. To address the third objective, any comment given by a participant about one of their income sources or monthly expenses was coded in NVivo using tree nodes. For example "expenses" would be a main branch, off this branch would be a sub-theme "transportation," off this branch would be a smaller sub-theme "private transportation".

As themes were incorporated into NVIVO a coding dictionary was created. This dictionary was helpful when applying the constant comparative method as it helped me keep track of any new emerging theme or themes that were common to more than one participant and also helped me assess when theoretical saturation was reached.

4.4.2.3.Eidetic Variation

The third step in the phenomenological approach to data analysis is eidetic variation (114). This step seeks to arrive at a structural description of the phenomenon as well as uncover the underlying and precipitating factors that account for the phenomenon. How do senior women experience food insecurity and what are the factors that lead to this experience? At this step, structures of time, space, materiality, casualty and relationships were explored (114). The structural description is best revealed in the findings for the first research objective (Chapter 5.3) and the underlying and precipitating factors are visually displayed in Figure 3 and in more detail in Table 8, referring to the findings from the second research objective (Chapter 5.4).

4.4.3. Data Quality

"The credibility of qualitative inquiry is largely dependent on the credibility of the researcher as the researcher is the instrument of data collection and the centre of the analytic process" (113), p 461. Being a new researcher, I took various steps to ensure my credibility. Member checking was available to all participants so they could read through their words to make sure I heard them correctly and provided the level of detail they were comfortable with. My research was monitored by experienced qualitative researchers via my supervisor and one member of my thesis committee (DN). My supervisor and committee members were also available to debrief and consult with in areas where I was

unsure of how to proceed. Throughout the process I maintained logs and journals, documenting my decisions so they were defendable.

4.5. Limitations

This study was open to all participants living in the HRM. Although the HRM supports approximately 50% of Nova Scotia's population (4) it is only one geographical section of the province, thus readers must be respectful of the setting the findings were obtained in. An American national mail survey found that the rates of food insecurity did not differ in rural and urban locations (19), but it is unknown if this same assumption can be applied to a Canadian or Nova Scotian context as provincial food costing studies found that the cost of a nutritious food basket was significantly more expensive in grocery stores located in rural compared with urban parts of Nova Scotia (9, 108).

Another limitation is the disproportionate representation of lone senior women living in subsidized housing. Provincial statistics report only 4% of seniors live in income-geared housing (8); however, seven of the eight women in this study lived in subsidized apartments. Their experiences with income-related food insecurity may be quite different as they are protected from spending more than 30% of their income on rent.

Other limitations include my inexperience as a researcher, the paucity of funding to conduct the research, and the newness of the topic (in Canada) thus providing little guidance from the literature around approaching this research area.

4.6. Ethical Considerations

The ethical components in the methods described above were approved by the Mount Saint Vincent University Review Ethics Board.

Food insecurity is a sensitive topic and great care was taken to ensure each participant felt valued and respected. All participants were fully informed of the study and signed the consent form (Appendix B). I provided all participants the option to read the form themselves or to have me read and review it with them. Anonymity was respected by using pseudonyms on audio files, transcripts, and journal notes so there were no identifying features on these materials. All correspondence and materials were kept in a locked room, accessible only to the student researcher and her supervisor; all electronic files were password protected.

All participants had the opportunity to be involved in member checking, by either reviewing their transcribed interview for accuracy or listening to the audio file; five of the eight women took this opportunity. This resulted in one to two additional visits with these five women, depending on whether they preferred to review the transcript on their own time, or read it while I was present. None of the five women had any discomfort with any part of the interviews and all transcripts remained in their original form.

All participants received a gift bag to thank them for their time as well as to provide them with a (small) amount of nutritious food. In the gift bag was a copy of Programs for Seniors, a directory of programs and organizations geared towards seniors, produced by the Province of Nova Scotia and the Seniors' Secretariat. This directory was also a useful resource during my visits with the women if I was able to identify a need and wanted to look for a program or organization that could be of service to the women and share contact information them.

5. RESULTS

5.1. Introduction

The following chapter seeks to achieve the three research objectives and is divided into sections based on each objective. In each section, discussion and interpretations are built into the presented findings as this chapter seeks to uncover the phenomenon of food insecurity in lower income senior women living alone in urban Halifax Regional Municipality (HRM).

The first objective of my thesis is to explore how lower income senior women living alone experience food insecurity. Section 5.3 provides a textual description of the seven main themes influencing participants' ability to access the foods they need and want, as derived from the interview transcripts and my field notes and observations.

Section 5.4 will examine participant and researcher-identified enablers and barriers to accessing nutritious foods using Bronfenbrenner's Ecological Systems Theory (109). The enablers and barriers identified were considered within the appropriate environmental layers of Bronfenbrenner's framework to explain how various factors can exert control on senior women's lives and affect their ability to access nutritious food.

Section 5.5 will explore whether or not hypothetical household scenarios developed through our previous research (12) accurately reflect the affordability of a nutritious diet for lower income senior women living alone in urban HRM. Based on the findings of our study, two new affordability scenarios were created to better reflect the monthly income and expenses of this particular population (those fitting study criteria) based on the comments and feedback provided by the participants.

Before addressing these three objectives, the chapter will begin by detailing the results of the recruitment process and introducing the reader to the participants who so graciously shared their experiences and lent their expertise and opinions for this study.

5.2. Recruitment Results

Recruitment occurred through five of the nine community organizations to which I sent study information packages. In total, the names and contact information of 17 women were collected. Twelve names were provided directly by organization staff who thought certain seniors might be interested in participating; the five other women responded either to mail outs in their home meal delivery package, posters in their seniors' manor, or they attended an information session I hosted at one seniors' manor. Not all 17 women were interviewed as three women did not return my phone calls, two women continually postponed interviews due to ill health, one declined an interview after further thought, and for one woman it was established during the initial phone call she did not meet eligibility criteria.

Ten interviews were conducted for this study; however, only eight transcripts were used to inform the results. It was revealed either immediately prior to, or during two of the interviews, that the women did not fit study criteria, despite being screened at the organizational level by the site contact staff person and screened over the phone by myself during our initial phone contact. One woman was only 64 and the second woman's income status had been reassessed the month prior to the interview and she was no longer in receipt of the Guaranteed Income Supplement. However, both interviews went forward and the two women were still compensated for their time.

Consistent with the study criteria, the eight women who informed the results were over 65 years of age, lived alone in HRM and received the Guaranteed Income Supplement (GIS). Two of the women lived in Dartmouth, one in Hammonds Plains and the remaining five in peninsular Halifax. All women rented their dwelling: one lived in a house, one in a townhouse complex, one in an apartment building and five lived in senior manors. Seven of the eight women live in subsidized housing, meaning their rent was based on a percentage of their income. One woman was never married while the other participants were living alone because they were either widowed or divorced. Interviews took place in the homes of all but one woman; this interview took place in the common room of a seniors' manor. A brief introduction to each woman follows, using pseudonyms to protect their identity. Table 6 provides a summary of key demographic and financial information for each of the participants.

5.2.1. Participant Profiles

Martha

After seven years of marriage Martha was divorced and left to raise four children on very little income. She describes hard times in the earlier part of her life that have shaped her attitude today. She is a strong-willed, resourceful woman with a marvellous sense of humour. She currently lives on the ninth floor of a new apartment building in downtown Halifax and pays a subsidized rent based on her gross income. She has great difficulty walking due to a car accident almost 40 years ago, making any kind of activity difficult for her; thankfully her eldest son visits regularly and dependably gets her groceries for her. She also accesses a food bank if necessary which delivers the food items to her. Despite mobility issues Martha is in great health. She receives the Old Age

Security basic pension (OAS), the Guaranteed Income Supplement (GIS) and the Goods and Services Tax/Harmonized Sales Tax (GST/HST) benefit.

Fran

Fran lives in an apartment above a Seniors' Centre that offers a lunch program during the week. Her rent is income-geared. She has Type 2 diabetes, is lactose intolerant, and has many food allergies; these issues combined with decreased dexterity resulting in difficulty cutting and preparing food causes her to stick with a rather routine eating schedule. Fran is in a wheelchair and does not enjoy grocery shopping; she is very grateful for her neighbour who regularly picks up groceries and puts them away in her cupboards for her. She is an out-spoken lady who continuously advocates for more accessible sidewalks and communities in general and believes accessible transportation programs are severely lacking in HRM. She receives OAS, GIS, the Canada Pension Plan (CPP) for survivors and the GST/HST benefit.

Thelma

Living in a small seniors' manor in suburbia presents many challenges for Thelma. She lived a very involved life prior to her stroke and having had to give up her car, now relies on her sister for transportation to the grocery store once a month, as well as purchasing transportation services for her various appointments. She requires a walker to weight-bear, has severe arthritis and Gastro-Esophageal Reflux Disorder. Her rent is income-geared based on what she receives from OAS, GIS, CPP for survivors and the GST/HST benefit.

Irma

Irma has lived in her house for almost 20 years. It is a non-subsidized duplex in a relatively unsafe part of Dartmouth. She regularly accesses a near-by food bank; she is extremely grateful of the food and clothing items she receives and is thankful the friendly staff will set aside diabetic food items for her. She receives OAS, GIS and GST/HST; however, did not disclose of any benefits left to her from her deceased husband.

Joan

Joan was very happy to share with me her thoughts on public pensions; she receives OAS, GIS and the GST/HST benefit and takes in a little over $1000 each month. She lives in an income-geared townhouse and applies various coping strategies to avoid going hungry. She smokes and drinks a lot of coffee; skips meals, buys no name brands and bulk products whenever she can and never dines out. She has multiple health conditions, including Peripheral Artery Diseases leaving her unable to walk even short distances without severe pain and cramping. Because of her health she relies on family and Dial-a-Ride for transportation.

Elsie

Elsie shared how she dealt with a traumatic divorce approximately 30 years ago which left her very financially unstable. This, in addition to battling breast, bone and bowel cancer throughout the years and still today, has presented many challenges for Elsie in how she can participate in life the way she'd like. However, she is a determined woman with an outstanding look on life who speaks gratefully for the many supports she has, including her church, the various cancer programs she takes advantage of, and her close-knit family. She lives in an income-geared seniors' manor and truly enjoys the

social aspect living in this type of community provides. She receives OAS, GIS, CPP and the GST/HST benefit.

Dorothy

Never married, Dorothy reports her focus as a young woman was to make money and that she held several different jobs over her career. While her closest family member is an estranged sister in Cape Breton, her church serves as a surrogate family. Dorothy has had multiple stays in the hospital due to colon cancer surgery, chronic hypertension, appendicitis, jaundice and several broken bones, including a broken leg during the time of our visits for this research project. She lives on the top floor of a seniors' manor and pays a subsidized rent. She receives OAS, GIS, CPP and the GST/HST benefit.

Margaret

During her younger senior years Margaret enjoyed great financial security and lived in a seniors-geared building where cleaning and meal services were provided. She stayed there until her "money ran out" as she says, and now lives in an apartment in a seniors' manor. She jokes that she didn't anticipate living this long as she's had two different heart surgeries. Two years ago Margaret's son convinced her to sell her car as she was having low blood sugar spells and going temporarily unconscious. She misses the independence having a car provides and as a result does not grocery shop as often as she'd like. She laments the cost of taxis but cannot use the bus due to mobility issues. Margaret currently receives OAS, GIS, CPP, the GST/HST benefit and a small income from a private employee pension.

Table 6. Participant Profiles

Name	Age (years)	Marital Status	Housing	Income Source		
				OAS & GIS	CPP	Private Pension
Martha	75+	Divorced	Subsidized	X		
Fran	65-74	Widowed	Subsidized	X	X-s*	
Thelma	65-74	Widowed	Subsidized	X	X-s*	
Irma	65-74	Widowed	Market-rent	X	†	
Joan	65-74	Divorced	Subsidized	X	X	
Elsie	75+	Divorced	Subsidized	X	X	
Dorothy	75+	Single	Subsidized	X	X	
Margaret	75+	Divorced	Subsidized	X	X	X‡

*X-s denotes participant receives the Survivor's Benefit.
†Participant did not reveal any information about whether she received CPP or not.
‡Margaret received $73/month from a private pension.

5.3. Research Objective #1 – Experiences

To explore via in-depth interviews how lower income community dwelling senior women living alone in urban Halifax Regional Municipality experience food insecurity and uncover the meanings embedded in their experiences.

None of the women participating in this study perceived themselves as food insecure. At one or more points in the interview food security was discussed; participants were asked if they could recall a time in their life since they were a senior and living on their own when they had difficulty getting the food they needed and wanted. Some shared stories of going hungry in the past, such as when they were caring for their children or when they were first on their own without their spouse, but none considered their current situation as food insecure. None could think of a time since they had turned 65 years old when they had gone hungry or had worried about where their next meal might come from. These women had a general contentedness about their diet, their life and general circumstances; they did not identify themselves as food insecure.

Through detailed diet histories and uncovering food procurement and management strategies, however, I would suggest that these women had experienced food insecurity as defined in this study but did not perceive themselves as being food insecure due to the strong influence of their world view. Three of the women interviewed accessed a food bank because they could not financially afford the food they needed. Six of the women had health problems that affected their mobility rendering them completely reliant on family, neighbours, meal-delivery programs or transportation services to get food into their homes. Meal-delivery programs and transportation services both cost money and for these women who all receive the Guaranteed Income Supplement, this

affected the frequency of grocery trips and number of meals delivered. It caused them to undertake socially unacceptable coping strategies such as stretching one home delivered meal to cover lunch and supper and relying on charitable assistance. Many spoke of their finances and how they had to be vigilant about how much they spent so all the bills could be paid and they would have enough for the expenses they needed verses wanted.

One woman, Margaret, appeared to be in the best position to access the food she needed and wanted. Although she had to recently give up her car due to health reasons and is now reliant on taxi services to go grocery shopping, she did not appear to be financially unable to absorb this expense. Margaret was the only one to receive a private pension from her previous employment.

I would suggest that the reason these women do not perceive themselves as food insecure is related to their world view; this will be discussed in depth in Section 5.3.1. Despite their perception that they themselves were not food insecure, seven main themes contributing to their food insecurity emerged from the in-depth interviews as participants talked about their ability to access the food they needed and wanted. These themes were: 1) World View, 2) Health and Health Problems, 3) Use of Community Programs, 4) Transportation, 5) Adequacy of Income, 6) Other Food Management Strategies and, 7) Availability of Family & Friends.

Our world view, or generational lens, develops as a result of past life experiences, cultural and religious beliefs and personal belief systems. How this generational lens affects seniors' perception of their food security status will be discussed first. While it was difficult to determine the order to discuss the remaining six themes, I will discuss

them in order of the greatest influence I felt they had on the participants' current ability to access food (Table 7).

These themes were confirmed in the last two questions at the end of the interview. When participants were asked to identify their biggest enabler to accessing food, the availability of family and their health were the two most frequently cited. When asked for their "food security wish" (e.g. what program or policy would you like to see created/enacted to help you gain better access to food) four wishes pertained to better transportation, and three wishes each for better health and closer food procurement places were stated.

Table 7. Number of Participants Reporting Themes Identified in the Study as a Current Factor or Main Enabler affecting their Food Security, and as a Wish to Increase their Food Security.

	Affect on current food security status*	Main Enabler†	Food Security Wish‡
Health	7	3	3
Community Organizations	7	1	
Transportation	5	1	4
Finances	5	1	
Other food management strategies	5	1	
Availability of family	3	4	
Availability of neighbour	1	1	
Closer amenities (i.e. grocery stores & restaurants)			3

* could be a positive or negative effect
† four women identified two main enablers
‡ one women had no wish, while one identified two and another woman identified three

The following text will discuss the seven main factors that either positively or negatively affect the participants' ability to access food. While participants' quotes in this section often highlight the positive aspect of a related factor, it should be noted that

the absence of what the senior cherishes would most certainly increase their risk for experiencing food insecurity.

5.3.1. World View/Past Experiences/Generational Lens

With ages ranging between 65 and 84 years, the women participating in this study each have long and rich previous life experiences, which in turn influence how they perceive their current food situation. Five of the women shared stories of times when they were food insecure in the past, prior to becoming a senior and how this past experience had shaped their perspective of their current food situation.

No I've never ever went hungry, the only time I've ever went hungry when I was with my children.

~Irma

The reason why Irma never goes hungry is because she accesses a nearby food bank frequently, sometimes weekly, a welcomed relief to the thought of going hungry again. However, when asked if there was anything she'd wish for to increase her access to food she had no wish:

No, because as I say I've been doing good the way I've been doing now for many years and I've got no complaints with any of it. I've got a roof over my head and I've got food to put in my stomach and my doctors tell me I'm doing good so there's nothing else I could want. I mean there's a lot of people that can't say that.

~Irma

For two other women, because of experiencing severe food insecurity earlier in life they took action and stockpiled non-perishables 'just in case'. Fran explains why:

Because I went for quite a few years where I didn't get enough to eat because I had to make sure my children were eating. And my children now look at my little cupboard that I keep my non-perishables in and they say and what army are you going to feed? And I just say, I'm not going to be hungry. I've got a whole shelf full of cans of soup. I've got

a whole shelf full of things like barley and rice and instant mashed potatoes and stuff. I'm not going to be hungry again.

~Fran

This food management strategy was also identified in Wolfe et al.'s work (19) where the participants would talk proudly of their strategies and how they helped them get through difficult financial times.

Five of the participants associate with a church and identify with its (Christian) ideologies. In another study by Quandt et al. (37) seniors identified a strong a reliance on God to help get them through hard times. This reliance was not specifically mentioned by the current participants with regards to food access but having faith in God to bring healing (physical and emotional) was identified as an enabling factor for overall quality of life.

Oh my God yes, take me back and I didn't have that accident. And if they could just make my foot better, right? That's the biggest wish, I pray to God every night, but I'm on His time, He's not on mine. So if that's what I have to put up with the rest of my life that's what I'll put up with. But I still pray, that it'll be a little bit better, He'd take this pain. That's the only thing I wish for.

~Martha

I detected a sense of stubborn self-sufficiency in many of the women I interviewed. It was evident in talking with them that they had been through a lot and could manage most things that might come their way. Irma highlighted this in her previous quote and Elsie provides another excellent example of this concept.

I had a hard time bringing up my children, and you learn from your knocks in life eh? Don't want to go through those again, I got to look after me, and I am, I'm looking after me.

~Elsie

Wanting to be self-sufficient could be interpreted as either a help or a hindrance, depending on how in need of assistance these women were. As Joan and Martha illustrate in the following quotes, this generation tends to not want to burden younger generations.

No my only problem is sometimes getting up there. Like I'm the type of person like I hate to ask anybody to do anything for me. I'll do it for anybody. But for me to ask somebody else, it kills me.

~Joan

[referring to her family] Yeah, they're alright. But I don't like calling too much, you know, they've got their own. She's got her grandson now so I don't bother [daughter], she's got her grandson and she looks after him every day.

~Martha

Some of these ladies tended to be judgemental of other seniors, and people in general, who they thought weren't making wise lifestyle choices. Going to the casino, playing lots of Bingo, smoking and drinking were all seen as frivolous, especially if these items took priority over health and food. Also "racking up debt" and relying on credit was frowned upon by some of the participants.

Keep away from liquor, keep away from cigarettes, you're life is alright. Now if I was smoking, I say well then I could complain.

~Irma

…there's people in here [seniors' manor] that moan and complain. I mean I was down to Bingo one night and this one said geeze I hope I win so I can buy a winter jacket. And I looked at her and said don't you have a winter jacket? Well she said I had one but…well I said my God, don't you get Old Age? And she said yeah, and she got right mad at me and said well I still don't have a winter jacket and then I seen her get up with a package of cigarettes. You have a choice lady. And I smoke for 40-odd years and I gave them up, so don't tell me it can't be done.

~Elsie

Well I could have spent it on, I could've got lotto tickets, I could've started smoking, I could've done a lot of stuff. It's easily spent if you spend it.

~Dorothy

When you owe a bill anywhere, if you just pay so much, what you can afford to put on it, it shows that you're trying to pay it. A lot of people don't pay a cent, they just let it go and go. Same as to go with phone bills and cable and stuff, they get their cable bill and go oh we won't pay that this month. I know my granddaughter was the same way with her cable and phone bill and now she's got nothing, no phone and no cable, they cut it off her. And I told her if you pay so much a month, it shows that you're trying, then they'll leave it on. But you just can't just go not paying month to month, letting it run up higher and higher without paying something on it.

~Irma

The above section helps show how these women's previous life experiences, and cultural, religious and personal belief systems all shape their world view. This world view in turn creates a generational lens which can skew how seniors perceive their food security situation compared to younger generations. In general, all women in this study were very accepting of their current situation, even if they were accessing a food bank or had health problems affecting their ability to grocery shop. The women did not perceive themselves as food insecure despite many obvious strategies undertaken to ensure they had adequate food. This finding was also true in a North Carolina study involving 145 seniors (37). Only 17 of the 145 participants self-reported as being food insecure; based on getting enough food, as defined by the participant, and the economic aspect of food insecurity; however, the authors used data from both food secure and insecure participants to reveal the meaning and management of food insecurity among this population. Those reporting to be food secure shared stories of relying on charity or family for money for food, not always eating the foods they needed for their health, paying bills and medications first and buying food with whatever was left over (37).

The women participating in this study no doubt acknowledged that there were factors in their life that hindered their access to food; however, the strategies they took to

overcome the obstacles were either seen as acceptable approaches in their eyes, or just a fact of life; just something you do if you're old, poor, etc.

5.3.2. Health and Health Problems

There was a myriad of health problems affecting this group of women, with all reporting multiple health issues. Five of the participants suffered from arthritis or joint pain, four had Type 2 diabetes, four were hypertensive, three had some type of digestive disorder, three had full or partial dentures, two were on medication for dyslipidemia, and two were cancer survivors, although unfortunately one of these women was currently battling two new cancers during her participation in this study. Stroke, thyroid problems, cardiovascular disease and severe food allergies were reported also once each.

The main health problem contributing to food insecurity among the participants, however, was physical and mobility limitations. Both Fran and Margaret have motorized wheelchair/scooters and have great difficulty battling rugged sidewalks, inadequate cut-a-ways to access intersections, inconvenient accessible bus schedules, and inaccessible retail stores. Joan is unable to walk far distances because of severe Peripheral Artery Disease, which causes painful cramping in the lower extremities. Thelma had a stroke and needs a walker everywhere she goes, Dorothy recently had a fall, broke her leg and now requires a walker, and Bertha has a steel plate in her foot as a result of a car accident and experiences great pain walking, relying heavily on her cane. Mobility limitations significantly decreased their independence; none of these six women are able to go grocery shopping by themselves; they rely on family, friends, various transportation services to enable access to groceries.

Arthritis and other types of joint and muscle pain was another form of physical limitation inhibiting access to food among five of the participants. Opening cans and jars proved difficult to impossible for a couple of the ladies. One participant purchased a one-touch can opener that she was extremely dependent on. Her hands were so crippled that preparing food was very difficult; canned soup became a staple in her diet because it was the easiest for her to prepare. Dorothy relied on her next door neighbour for help, he had a can opener she could use whenever she needed and she would bring him baked goods to thank him.

Well if I have a bottle I can't get open I go to [neighbour]…he's got something on the wall and he'll open any bottle or any can I have problem with. So I bring him a few a brownies or a few muffins or something…

~Dorothy

Needing to avoid food because of allergies, sensitivities or because it was contraindicated with a medication was also an issue for some of the women participating in the study. Fran has nine different ingredients listed on her allergy information card, meaning sometimes she was left with little choice for meal options available through the congregate dining program at her seniors' manor.

Your only choice is take it or leave it. A lot of foods I'm allergic to and they used to substitute but now the new the director's decided no no, no more substitution…. I'm allergic to many, many foods. I'm allergic to hamburg, which they eat a lot. And things like peas, and carrots and bananas, and all kinds of nuts and they're serving pistachio pudding so…

~Fran

Many of the women shared fond memories of times prior to health issues when they felt involved in the community and more in control of their life. A negative change in health often meant the women had to give up something they enjoyed. Some of the

women used to enjoy exercising such as dancing, walking and learning Tai Chi. One lady volunteered with the congregate lunch program in her apartment until she had to stay in the hospital for an extended amount of time due to bowel cancer. Grocery shopping used to be a social outing for Elsie, Martha and Margaret, they all looked forward to it but mobility limitations now have turned it into a more of a chore.

Oh it's too much walking around. The stores are too big and my foot's too sore, I could never get around it. You know, just like going to the mall, you know, the mall is so awful, you know about that, the mall, it's so big by the time you get around and get home it's just like, ahhhh. You feel like you're dead. And grocery stores are just the same, they're too big and I don't want to get in no wheelchair, where am I gonna put the groceries at?

~Martha

Yes, it's a long way, and I sit on my wagon every once and a while and have a rest. In fact I'm usually done in when I come home.

~Ruth

Interestingly, a change in health status was actually a positive influence on one lady's food security status. Elsie unfortunately is battling two different types of cancer, but she has a very positive outlook on life and is thankful for the cancer programs she had access to which provide group sessions and one on one appointments with doctors and psychologists. Having this illness has strongly motivated her to eat well, and she does because…

I have to keep my body in good health in order to live longer.

~Elsie

Most of the women interviewed took multiple medications every day. When asked how many different medications she was on, Thelma laughed, and rhymed off 10 different kinds. Many of the women had their basket of pills prominently displayed on the kitchen counter, and four noted their insulin was in the fridge.

Two women had a private drug plan, one through her deceased husband's work and the other through her own former employer. The other six were enrolled in Nova Scotia Department of Health's Seniors Pharmacare Program, the provincial drug insurance plan. It pays for certain prescribed medications, supplies and related services for seniors. It is available (and compulsory) to any resident of Nova Scotia who is 65 years and older with a valid Nova Scotia Health Card and no drug coverage through any other plan (122).

In Nova Scotia, senior Pharmacare recipients pay 33% of the total cost of each prescription up to a maximum of $30 as part of a co-payment program. Once co-payments have reached $382 Pharmacare pays the complete cost of the medications (provided they're covered under the program). This program protects Canadian seniors from spending disproportionate amounts of their income on medications.

Interestingly, one of the two women with private insurance admitted in the past she has been faced with decisions of purchasing required medicine versus food due to inadequate finances. She preferred her plan because it offered coverage for a greater variety of health services, even though it was more expensive. Staying with her husband's employer's insurance company wasn't an option for Thelma, however; once she turned 65 years of age and was eligible for Pharmacare she took advantage of a cheaper drug insurance plan, despite losing some health services.

Yeah, I dropped Blue Cross; the thing was costing me a lot of money. But I used to be able to get some therapy for my arthritis, they'd pay for that but Pharmacare don't pay for that.

~Thelma

In the current study it is obvious health status affects senior women's ability to access food. Many of the diseases these women have, such as diabetes, cardiovascular disease and dyslipidemia, are compounded if the individual does not have access to nutritious food. To help increase their ability to get the food they need and want, the eight women participating in this study used combinations of community organizations, transportation services, family, their finances and other personal coping strategies to prevent hunger.

5.3.3. Use of Community Organizations

Due to the nature of participant recruitment for this study, seven of the eight women participating in this study were currently associated with a community organization, some food-specific and some senior-specific. Therefore because of this, these women may not reflect the most food insecure lone women in urban Nova Scotia. This section will focus on the food-specific programs and services offered by community organizations as mentioned by the participants. The three types of charitable food programs utilized by these women were home meal-delivery programs, congregate dining programs and food banks.

Home meal-delivery programs used by study participants included Meals on Wheels (MOW), Ward 5 Community Centre, and Victorian Order of Nurses (VON) Frozen Favourites. Meals on Wheels offers a hot meal at lunch time, delivered to the client's door. Meals cost between $5-$6, depending on membership to the seniors' centre where meals are prepared and are available five days a week. Meals consist of soup, an entrée and dessert. Ward 5 delivered lunch orders to the seniors' manors where two of the participants lived. Meal price and content are comparable to that of MOW; however, the

delivery service was only available on Thursdays. The VON offers a unique home delivery program called Frozen Favourites. Clients can order frozen entrées, similar style to a TV dinner, their order is delivered once a week and then clients can heat up the entrée at their leisure. At the time of the study there were 19 different entrées available, all suitable for diabetic diets.

Home-delivered meal programs can make a significant contribution to the nutrient intake of seniors (89); however, it was common for the seniors in this study to stretch one meal to make it into two. Dorothy often saved her soup and dessert for supper; Margaret stopped ordering MOW when she felt the portions were getting smaller.

Well at first when I first was getting them they were wonderful. And I always had the soup for my lunch and I could make the dinner do two dinners. And at the last going off I barely had enough for one dinner.

~Margaret

Home-delivered programs increase access to nutritious food for home-bound seniors or seniors with limited transportation access; unfortunately they do little to address the social needs of seniors living alone (36, 89, 123). Isolation and loneliness contribute to food insecurity in the elderly (124) and are very real issues for many of the eight women interviewed.

One way to increase socialization amongst community-dwelling seniors is through congregate dining programs. Programs used by study participants included Ward 5 Community Centre's Lunch Bunch and Dartmouth Seniors' Service Centre- In House Program. Although Ward 5 runs an in-house program at their centre, the Lunch Bunch program was unique to a seniors' manor where two of the participants lived. Ward 5

provided a meal each Thursday and the manor common room became a congregate dining room.

[the Lunch Bunch] fills in our time and it's a good social event. Even if I don't get the meals I still go and talk and things like that.

~Elsie

The Dartmouth Seniors' Services centre was open to centre members, non-members, and to residents in the attached apartment. Fran put herself on the apartment waiting list well in advance of when she intended to sell her home so she could live above the seniors' centre which offered the meal program because she saw the value of having access to this service. However, she did raise concerns about the lack of variety and nutritional quality of the meals, especially because she had to contend with so many food allergies.

I think one thing that should be is places like this where they serve meals should have nutritionists and so on inspecting to see, looking at the menu and saying well now look, hamburg three times in one 5 day week is not nutritious. Especially for somebody like me who can't eat it. Last night we went for a roast beef dinner and they charged $8 which is fine and they had the vegetables and I looked at it and went oh, white broccoli again. It's just the cuttings of the broccoli, not the florets and they boil them so much there's no colour in them… So it really should in places like this, periodically be inspected for nutritional… [and we get] the same thing every month. I mean like they have meat loaf, baked potato and beets. So one month why not ditch the beets and have green beans… so really [they] should have nutritionists really examine what we're being fed. We're in positions, we have no choice, we eat, take it or leave it.

~Fran

While Dartmouth Seniors' Services meal service is periodically reviewed by dietitians (personal communication, Dec 4, 2007); the perceived lack of variety in the meals were obviously of concern to Fran.

Three of the participants in this study accessed a food bank; one was based out of a church, one was housed in a family resource centre and the other was independently

run. Food banks in Canada are extragovernmental, community-based organizations, reliant on donations and the charity of individuals, and un-sellable surpluses of food producers and retailers (125, 126). They play a very needed role in the lives of many Canadians; over 720 000 Canadians accessed a food bank in March of 2006 (91), including Irma, Martha and Joan.

These three women talked casually about their use of food banks with no sense of shame detected. They spoke accolades about the staff and volunteers at the food banks they attended and were so appreciative of the food they received. Not only could they receive food when in need, their food banks also delivered to them, which was considered a God-send for Joan who has difficulty walking.

Well sometimes like if I need, say if I need onions or anything like that, I'll phone up and see if they've got any and if they have well [volunteer] will bring it down.

~Joan

Martha was careful to point out that she only received food when she really needed it and Irma took strides to make her food last as long as possible.

Yeah, they're really good, really good. But you don't take advantage of it. Don't take advantage.

~Martha

I just get the food once a month, they give me quite a bit, it lasts, I'm not that big of an eater… they give me stuff that I make on my own, and I make enough that it lasts me for almost the week, that counts.

~Irma

5.3.4. Transportation

Transportation issues resounded throughout the interviews. None of the women owned cars, many had mobility issues and all depended on family, friends or neighbours

to access grocery stores, medical appointments, or church. Other modes of transportation used by the participants included the municipal bus system (both regular and accessible services), private taxis, VON Dial-a-Ride and a private transportation service called "Linda's An Extra Hand". These other modes of transportation all had fees attached them which could pull away money from the food budget. Margaret went grocery shopping once every two weeks, and with no family nearby had to pay each time to get to the store.

Oh I begrudge taxi fares, they're so expensive. From here it costs $10 return to go to Sobeys.

~Margaret

Three women shared distressing city bus stories either themselves or a close friend had experienced, such as falling up or down the steps while getting on or off the bus, or drivers not waiting until they sat down before taking off causing them to stumble awkwardly about.

It's a long step, sometimes it doesn't come to the curb. It's a long way down… my neighbour, she used to go a lot on the bus and she went once she was so frightened getting off, frightened she'd fall, and there was a young man there getting on and he helped her down. And she never went any more.

~Dorothy

Two women were very dissatisfied with HRM's accessible bus service. Changes in the bus routes and a policy stating the accessible bus would only come so many meters off the route meant one participant could no longer rely on this service. Another participant noted how far in advance she would have to schedule the bus.

You have to give exactly two weeks notice and then they'll work you in. so therefore you have to make your appointments [well in advance] … And you can get up in the morning and say I think I'll go get groceries today… we can't do that.

~Fran

Halifax Regional Municipality Metro Transit's Access-A-Bus operates within 610 meters of the urban transit route. Clients must register with the system to be eligible to use its services; once registered they can request a pick up at their doorstep, providing they live within the service boundaries. If they live outside the 610 metre area they can still access the system once they've traveled to an area within the service boundaries. Thelma was very dissatisfied with this policy, her manor used to be within the service boundaries but changes in transit routes over the past few years meant this was no longer so. She shared with me how this policy affected her and her neighbours' ability to partake in social outings and made her completely reliant on her sister to take her grocery shopping and on VON Dial-a-Ride to get to medical appointments.

A lot of people too, they're really suffering because they can't get out now.
~Thelma

The VON Dial-a-Ride is a volunteer-run transportation program offered to seniors and adults with disabilities living in HRM. Five of the eight women interviewed used this program and had nothing but praise for the friendly volunteers, economical fares and reliable service.

God bless I've got Dial a Ride. That's all I can say.
~Martha

When seniors are no longer able to drive, or have lost a spouse who did the driving, they traditionally have relied on family members to provide transportation (81). Family members and friends were the main transportation sources for six of the eight women; however, family members were also dispersed across the country, or although

some lived nearby they were unable or unwilling to provide this service for the participants.

5.3.5. Adequacy of Income

During the interviews, when I introduced the affordability scenarios to the women, they were asked to reflect upon their income sources and the adequacy of their overall income. No single women identified themselves as living in poverty or being in great need, or even want. As noted previously, there was often an air of self-sufficiency; that they made do with what they had. The generational lens through which they viewed their situation allowed them to compared their current situation to situations in the past where they faced extreme financially difficulties; relative to then they perceived their current income to be adequate.

All women received the basic Old Age Security pension and the Guaranteed Income Supplement. Four women received a Canada Pension, the result of their contribution to the plan when they were previously employed. Two women received survivor's benefit through the CPP. Only one woman reported receiving a private pension, $73/month after working almost 25 years.

In general, the women seemed appreciative of the pensions they received, they were thankful to have a reliable monthly income; however, there were notions that they could use a bit more.

Oh man yeah, because look I got a $400 cheque every month with the Supplement and I was thinking I was living like a Queen! I really really was.

~Elsie

Old Age Pensions and that? Well I tell ya, they could be more. They could be more. Of course, now this is a God send, what I get now compared to what I got then…when I was on mothers' allowance.

~Joan

Oh, I'm always just about at the end of it at the end of the month…nobody's gonna get rich when I go, there'll be no fighting over my money!

~Thelma

Seven of the eight women lived in income-geared housing which means they only had to pay a maximum of 30% of their gross monthly income for rent. This controlled expense meant despite the adequacy or inadequacy of their overall income, they never had to pay a disproportionate amount on shelter, thus their funds could be better distributed to other necessary expenses. Joan and Thelma explain:

…like I know some rents are out of this world, but if you live in public housing, your rent's not all that bad…Like I said, today, it don't matter how many live in your home, the most rent you pay is $575. In the Park [public housing unit], you know? So if you're getting family allowance of $1000/month…

~Joan

[Housing] always take a third because that's their share of the rent. Every time rent comes up they take a third of that, whatever you get, so they can't put any more on for rent, because it's subsidized housing.

~Thelma

Another benefit of living in income-geared housing is that the provincial government is the landlord and is accountable to its people, therefore standards of living, such as adequate kitchens/cooking facilities are generally maintained, and if not, are contestable.

None of the women conveyed that their food intake actually suffered because they did not have enough money to buy the food they needed and wanted. The three women accessing food banks perceived themselves to never truly be in want because they could

rely on this charity to fill the cupboards when things were getting low. However, what did seem to suffer because of inadequate finances was their social life.

Like I never go to movies, the last time I went to a movie I took my children by their hands to see Herbie The Love Bug. They're now 46 and 43. Because I can't afford to go to movies. I don't go to restaurants, except when my sister's down visiting. Ah I don't really have any entertainment…

~Fran

No I can't afford to go out [to dinner], unless one of my children, my daughter she generally takes me out on Mother's Day and on Christmas I generally go down to her place…but no I eat by myself.

~Irma

Money can't buy friends but it can pay for transportation services to get to seniors' clubs and events.

Well I used to be a part of the Leisure Club years ago but of course I have no car now so I can't get there. [It's] down in Bedford, a seniors' club there. It's still going, but I couldn't fish around for transportation. And I was the president of the Dartmouth Stroke Club for three and a half years.

~Thelma

As discussed in the previous section, affordable accessible transportation programs targeted to seniors are in great need, not only so that seniors can have reliable access to food, but also so that they can maintain their involvement in the community and enjoy full quality of life.

5.3.6. Other Food Management/Coping Strategies

Additional to using organized community-based programs, the women in this study employed other food-management strategies at the individual level to buffer food insecurity. Strategies included tight budgeting, "stretching" food, stockpiling non-perishables, eating poor quality (old) produce, buying on credit and using various resources available at grocery stores. This section will highlight the last two strategies.

One woman reported sometimes needing to use her credit card near the end of the month if her funds went too low to buy food, but where participants mentioned need for credit most frequently was in the context of their pharmacy when they couldn't afford the co-payment for their medication. Pharmacare clients are required to pay 33% of the medication cost or $30, whichever is cheaper, but this is not always manageable for seniors living on a fixed income with multiple prescriptions. Pharmacies exist in HRM however, where seniors can hold credit accounts and repay in increments when their public pension cheque comes in each month.

Well the way with Pharmacare, it goes through [owner's] drugstore where I've been dealing with for years, if I haven't got money to pay right then well they always just charge me. And I just pay them so much a month…[the owner's] the one who looks after me down there. But anytime I can't afford to pay a medication she just pushes charge and I pay so much a month.

~Irma

What they'll do is if you run out of medication until you get your cheque, they will lend you, say they'll lend you vials of insulin, so when you get your prescription well then what they do is they take that back…yeah, like I say, they'll lend the medication to you.

~Joan

One woman was quite opposed to buying anything on credit. Resistance to using credit has been reported elsewhere in lower income senior populations (37). In their quest to understand how seniors in upstate New York experience food insecurity, Wolfe et al. (19) found their participants would undertake shopping practices such as using coupons or choosing sale items to avoid buying food on credit. In my research only one woman voiced a strong opposing opinion.

No, I never had no credit card. I have no need for a credit card. Never… I told them I never had one and don't want one. I manage my own money

~Martha

Martha was a meticulous budgeter, she kept all her receipts and was quite disapproving in particular of one of her daughters who had 15 different credit cards.

Using various resources available at the grocery store was another individual level food-management strategy used to buffer food insecurity. Unique shopping practices carried out by Elsie included asking produce department staff to chop or peel vegetables, particularly hard root vegetables like squash and turnip. She would also request staff to cut whole vegetables in half. She knew she couldn't eat a whole bunch of celery, for example, and didn't want to pay for something that was going to rot in her fridge.

I'll say [to produce department staff] I really don't want to buy that great big bunch of celery, because it'll rot on me. And he'll say, So? And I'll say, cut it in half! And if I buy a squash I'll say will you cut my squash, and he'll say how do you want it? And I'll say in quarters. And they'll cut it for me. And if I buy a turnip because my hands can't do it anymore and I'll say will you cut that? How do you want it? Cut it in chunks so I can just peel it and that's what I do… I thought, what's the sense of me buying it if I can't cut it? … Yeah, when you're a senior and you're living alone you got to, economically you got to do it. I got sick of throwing vegetables out. Well I'm not doing it anymore, because I don't have the money. And they really don't mind, they really don't.

~Elsie

Seniors who don't have family or friends to take them grocery shopping are faced with the potentially difficult task of getting large, heavy grocery orders home. Some grocers offer a delivery service; however, there is often a fee attached to this service[6]. To combat this problem, Dorothy found one store which offered free deliveries one day a week (Wednesdays) to seniors; unfortunately this store was by no means the closest option, she passed three of the same stores to get to the one which offered free deliveries. Dorothy would take a long bus ride to the store, do her shopping, bus back, and later that day the delivery person would bring her order up to her ninth floor apartment. Thelma spoke of a grocery store relatively near her house that used to offer a delivery service.

[6] $7 was the delivery rate at the three grocery stores in peninsular Halifax I informally inquired at.

Her food security wish was that it would re-offer the free service as this would help her achieve greater food security. She currently relies on her younger sister to drive her to the store once a month to get her groceries.

Another strategy undertaken by Dorothy was the use of a grocery delivery service. She noticed an advertisement for Home Grown Organic Foods, a local organic store that offers a delivery service within the Halifax area. The Saturday before our interview was the first time she had a delivery and she was quite impressed with the quality of the food received. During the duration of our visits she received three food boxes consisting of a small amount of vegetables, such as a head of lettuce and a couple pounds of potatoes and sweet potatoes. Home Grown Organic Foods' delivery program is free once customers pay a one time $25 account-opening fee.

5.3.7. Availability of Family & Friends

The availability of family members, whether children, their spouses, siblings, or nieces, all played a monumental role in preventing or lessening food insecurity for five of the six women with family near by. All participants were asked what the biggest factor in their lives was influencing their ability to access food; four of the women immediately responded with family. The role that family members played varied amongst the participants, but critical roles were seen in providing transportation to shopping and medical appointments, housework, caring for them if they were sick, tending to legal matters, paying certain bills if necessary, and offering love and company. It was obvious the women were very proud of their children, siblings or relatives regardless if they lived near or far.

No, I've never worried about food because like I say, [son] takes care of me and my daughter calls me up all the time, do you need anything mom, do you want anything? And [other daughter], well she's there too.

~Martha

Another lady, when asked what was the biggest factor influencing her ability to access food she quickly responded "neighbours with cars".

Well actually I'm in a very lucky situation, because a downstairs neighbour takes another neighbour for groceries every month and she said to me one day I mine as well get your groceries while I'm walking around with her. And I just give her my debit card and my list and she does my shopping… And she not only goes and gets my groceries, but she brings them back and she puts them away for me.

~Fran

Dorothy and Thelma had no children and Margaret's children both lived in British Columbia. Thelma had a sister close by she relied on to get to the grocery store but used VON Dial-a-Ride for all medical appointments. The other two women used a combination of transportation services to get where they needed to go. Dorothy brought up the point several times throughout the interview that when you have no family, no one to fall back on, you have to be financially prepared for the unexpected.

It's good to have a little bit of money, it doesn't matter how young you are [and] it don't matter how old you are, you don't know what's going to come up that you're not counting on, and then when you've got nobody to come back on. [I've made wise choices] with the money, it's because I've got nobody to come back on. You've got to have some money or somebody to help you out you know.

~Dorothy

The availability of family (and friends/neighbours) to "come back on" in times of need is extremely important in preventing or lessening the impact of food insecurity. However, not all seniors have close (geographical or emotional) relationships with family members. Seniors are staying in the community longer before entering long term care facilities (34, 127) or entertaining other housing options; thus the health and well being of

seniors, and therefore their ability to live on their own in the community is dependent on adequate financial and social supports. Inadequate public pensions, transportation services, health services, under funded community organizations and other supports all increase the risk for food insecurity and undermine the senior's right to age with dignity.

5.4. Research Objective #2 – Enablers and Barriers

To discover participant-identified and researcher-identified enablers and barriers to accessing nutritious foods for lower income lone senior women in urban Halifax Regional Municipality.

Throughout the data collection and analysis process, it became apparent that enablers and barriers perceived by the women participating in this study differed from those observed by myself. While enablers, such as family availability and transportation access, were generally mutually identified, many barriers and coping strategies undertaken by the women that I recognized as being directly related to the participants' food security status were perceived as just part of their normal day, something they had to deal with, just a fact of life. As highlighted in Section 5.3.1, a generational lens allows these participants to compare their current experiences with past difficult times, whether these times were person specific, such as after a divorce; or time-period specific, such as before changes in Family Allowance. This lens serves to cast a "rose-coloured glow" on their current situation, a situation that myself, or others hailing from younger generations, would view as not-so-ideal. Because of the implication of this lens, this section will therefore uncover participant-identified enablers and barriers as well as enablers and barriers the researcher extracted from the transcripts, her interactions with the women and her observations of their physical environment.

Bronfenbrenner's Ecological Systems Theory (109) provides a model to examine the biological, demographic, psychological, social/cultural, environmental and political enablers and barriers affecting individual behaviours. In this case, the individual behaviour of interest is one's ability to access sufficient nutritious food; what factors are

affecting participants' food procurement[7] patterns? A summary of the participant- and researcher-identified factors, categorized by the different environmental layers described in Brofenbrenner's model, are visually displayed in Figure 3 and described in more detail in Table 8. The text below contains quotes from the participants and my summation of enablers and barriers, attempting to justify the placement of factors across the seniors' micro-, meso-, exo-, macro-, and chronosystems.

[7] A reminder to the reader that food procurement refers to any means the participants use to gain access to food, such as purchasing at a grocery store, asking family and neighbours to pick up food items for them, eating at congregate dining sites, accessing food banks, etc..

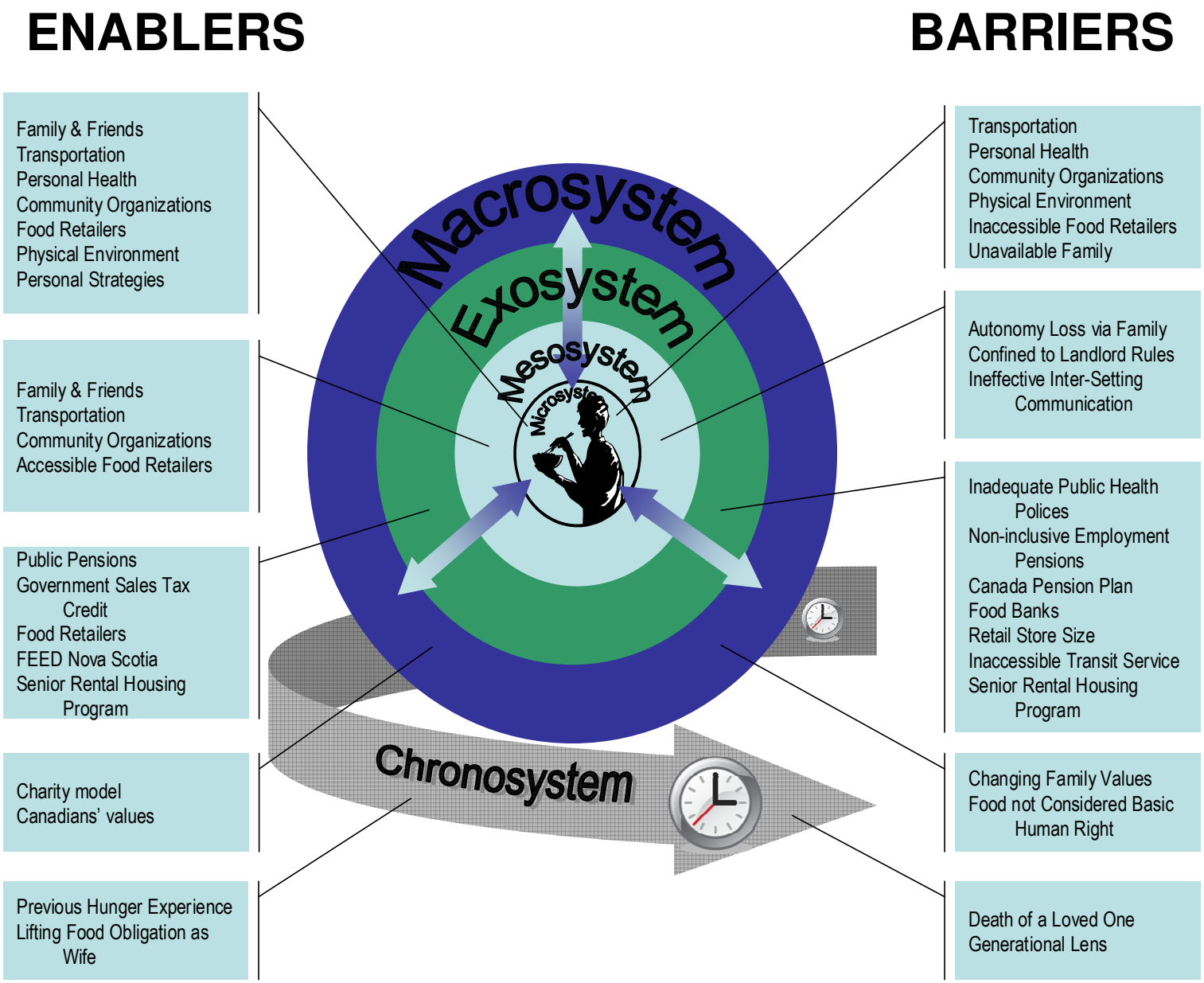


Figure 3: Overview of Enablers and Barriers to Achieving Food Security Identified at the Micro-, Meso-, Exo-, Macro- and Chronosystems (109, 111) Among Lower Income Lone Senior Women in Urban HRM

Table 8. Detailed List of Enablers and Barriers to Achieving Food Security Identified at the Micro-, Meso-, Exo-, Macro- and Chronosystems Among Lower Income Senior Women Living Alone in Urban Halifax Regional Municipality

ENABLERS	BARRIERS
Microsystem	
1. **Availability of Family/Friends** a. Family/friends picking up groceries for senior b. Family/friends driving senior to grocery store c. Family/friends providing motivation to cook & eat 2. **Transportation** a. Family/friends picking up groceries for senior b. Family/friends driving senior to grocery store c. Victorian Order of Nurses (VON) Dial-a-Ride d. Linda's An Extra Hand e. Taxi Companies- good costumer service 3.**Personal Health** a. Mobility b. Presence of chronic disease motivation to eat well c. Access to health professionals 4. **Accessible Community Organizations Offering a Food Service** a. Food bank i. Service in general ii. Delivery service b. Meals on Wheels i. Provides nutritious meals ii. Stretch meal into two iii. Drivers provides social stimulation to clients c. Dartmouth Seniors' Centre & Ward 5 Seniors Lunch programs i. Provides nutritious meals ii. Take out service iii. Congregate meal	1. **Transportation** a. Family/friends available on their time (not seniors) b. Taxi Companies- poor custumer service c. Service fees 2. **Personal Health** a. Mobility limitations b. Requiring specific foods for health c. Allergies d. Cost of medications 3. **Community Organizations Offering a Food Service** a. Meals on Wheels i. Lack of choice ii. Substitutions not available for in-house customers iii. Price 4. **Physical Environment** a. Inadequate sidewalks b. Market rental housing c. Lack of freezer space 5. **Food Retailers** a. Delivery service charge 6. **Unavailable Family/Friends**

d. VON Frozen Favourites i. Provides nutritious meal ii. Drivers provides social stimulation to clients iii. Wide selection of entrées 5. **Accessible Retailers** a. Local Superstore i. Free deliveries for seniors every Wednesday ii. Relatively smaller store size b. Grocery stores in general i. Grocery staff chopping/peeling vegetables ii. Grocery staff cut units of vegetable in half c. Home Grown Organic Foods food box program 6. **Physical Environment** a. Accessible apartments b. Adequate cooking facilities c. Subsidized housing 7. **Personal Strategies** a. Cooking skills b. Budgeting skills c. Stockpiling non-perishables	
Mesosystem	
All enablers in the microsystem that require the participants to interact with persons outside their home setting could be included in the mesosystem environment. The following lists examples of enablers for <u>multi-setting</u> participation: 1. **Availability of Family/Friends** a. Family/friends driving senior to grocery store 2. **Transportation** a. Family/friends driving senior to grocery store b. VON Dial-a-Ride	1. **Family** - created a sense of loss of autonomy as participants depended on family to get to places 2. **Confined to Landlord Rules**- Restrictive Common Room hours in seniors' manor decreased socialization around meal and snack times. 3. **Ineffective Inter-setting Communication** – between health care providers and participants

c. Linda's An Extra Hand d. Taxi Companies- good costumer service 3. **Accessible Community Organizations Offering a Food Service** a. Food bank i. Delivery service b. Meals on Wheels i. Drivers provides social stimulation to clients c. Dartmouth Seniors' Centre & Ward 5 Seniors Lunch programs i. Congregate meal d. VON Frozen Favourites i. Drivers provides social stimulation to clients 4. **Accessible Retailers** a. Local Superstore i. Delivers grocery orders for seniors every Wednesday b. Grocery stores in general i. Grocery staff chopping/peeling vegetables (arthritis, weakness) ii. Grocery staff cut units of vegetable in half (so no wastage)	
Exosystem	
1. **Public Pensions** (Old Age Security & Canada Pension Plan) 2. **Guaranteed Income Supplement** available to all lower income seniors. 3. **Goods and Services Tax/Harmonized Sales Tax (GST/HST)** credit available to low and modest income households 4. **Local Superstore**- free delivery policy for seniors	1. **Inadequate Public Health Polices**- dental services not covered 2. **Non-inclusive employment pensions** 3. **Canada Pension Plan**- not enacted until 1966 4. **Food Banks** a. Reliant on donations b. Amount of food given and frequency of visits regulated

5. **FEED NOVA SCOTIA-** evolved to a provincial collector and distributor for food banks, soup kitchens etc to help ensure all persons in need can access similar types/amounts of food regardless of geographical location. 6. Department of Community Services **Senior Rental Housing program**- provides income-geared housing options	5. **Retail Store Size** 6. Halifax Regional Municipality Metro Transit's **Access-A-Bus** a. operates only within 610 meters of an urban transit route in Halifax Regional Municipality b. must book service well in advance **7.** Department of Community Services **Senior Rental Housing program** a. Wait times for income geared housing
Macrosystem	
1. **Charity model**- churches and community groups help feed less fortunate 2. Public pensions driven by **Canadians' values**	1. **Changing Social Values**- seniors moving into children's homes less, children no longer living in same area as parents 2. Canada's **inability to grant food as a basic human right** to all citizens
Chronosystem	
1. **Previous hunger experience** – Employs food management strategies so she never experiences it again 2. **Lifting Food Obligation as Wife Phenomenon** - Death of spouse means she now eats what she prefers	1. **Death of a loved one** a. less motivation to cook b. disordered eating 2. **Generational Lens**- Previous experiences going hungry affect current perceived food situation

5.4.1. Enablers

5.4.1.1.Microsystem

The two most prominent enablers within these women's microsystems, the layer closest to them containing the structures with which they have direct contact with, were availability of family and friends, and reliable transportation. Other enablers included involvement in a community program that provides food (including food banks), accessible food retailers, health, personal skills and abilities, and enabling physical environments. The enablers were categorized into seven main themes and 39 sub-themes within the microsystem level of the ecological systems model.

Half of the women relied heavily on family to either pick up their groceries for them or take them grocery shopping.

> *But I can't walk around now so [son] goes and does everything… yeah yeah, I don't know what I'd do without him.*
>
> *~Martha*

> *The support of my family, they're fantastic. I don't know what I'd do if I didn't have them.*
>
> *~Elsie*

When Thelma was asked what the biggest factor was that helped her get the food she needed she simply said "*My sister"*.

Family members not only increased participants' access to food, they sometimes would provide them with the motivation to actually eat the food. Joan noted often she just wouldn't feel like cooking, but if one of her grandchildren were coming over, she'd be sure to have a well-balanced meal prepared to share together.

Three of the women interviewed depended on food banks to get them through until their cheques came in at the end of the month. Martha was fortunate because she

knew a staff person at a nearby food bank who would periodically phone her to see if she was running low and needed anything. Martha met her friend while in the hospital over 40 years ago. Martha had both her work and home phone number and was encouraged to call anytime at either place, even if just to have someone to talk to.

Oh she knows me right so she calls me up every once and a while to see if there's anything I want. And I tell her no, I've got enough food right now. But if I get down on something, oh chicken noodle soup or cereal or something like that. I can't get milk or nothing like that but if there's something I'm down on I call her and she sends it out to me.

~Martha

Irma also had people looking out for her at her local food bank. They set aside diabetic products for her, helped her find clothes just her size and delivered her order if she was unable to find a ride to the church where the food bank was held.

Yeah, she always has a bag with diet jello, Weight Watchers jello, couple packages and some Sweet and Low and different diet puddings and stuff… she'll go into the back and bring out a bunch of stuff and she says is there any of this stuff you'd like to have? I say it's stuff I'd like to have it, would you like to give it to me? …They treat me nice.

~Irma

Programs such as Meals on Wheels (MOW), Victorian Order of Nurses' (VON) Frozen Favourites and Ward 5 Community Centre's seniors' lunch program were frequently cited as enabling organizations.

You tell me where you can go get a meal for $5, and I mean that's juice, a roll, dessert and full course meal. Five dollars!

~Elsie

If I run out of something and nobody's around to get it for me I go down to the [MOW] centre and say hey, get me a few pieces of bread or whatever, or I need a couple eggs. They're very good that way… that was my main reason I wanted to move into this building was because of the centre and the meals.

~Fran

Not only do these programs provide nourishing meals, there is also a social element, a meal delivery person may be the senior's only visitor that day, or a weekly congregate lunch is an opportunity to leave the apartment and socialize in the seniors' manor common lounge.

I get one. I used to get two when I was sick and had the colon cancer and then it wasn't too long after that I got one or two when I had the broken pelvis and broken shoulder. And then I could get my own meals after a while but I missed the meals and I missed the person coming, so I still get them on Mondays.

~Dorothy

Ward 5 cooks our meal for the Lunch Brunch, and we pay them for the cost of the meal. And you get a very nourishing meal….Well goodness, what do we have to do? Nothing! So this bides our time, you know it fills in our time and it's a good social event. Even if I don't get the meals I still go and talk and things like that.

~Elsie

Interestingly, VON's transportation program Dial-a-Ride was not used for grocery shopping by any of the women. It was regularly used to get to medical appointments and was hailed as an inexpensive mode of transportation but was not capitalized for getting groceries. Two women who regularly used the program to get to appointments were unaware prior to the interview it could be used to access grocery stores. However, it is assumed though that because Dial-a-Ride is often cheaper than taxi fares, less money is pulled from the food budget to be spent on transportation and therefore Dial-a-Ride is an enabler for increasing financial access to food for these seniors.

When I had the wheelchair I couldn't get it back, I couldn't get anyone to take it back so I called [taxi company], $25 [then] I called Dial a Ride and [driver] took me over for $10 and brought me home. So there you go, I saved $15.

~Martha

Dorothy took advantage of a free delivery service offered by a certain grocery store. It offered free deliveries to seniors one day a week; however the senior actually

had to go to the store and purchase the items first. This particular grocery store was not close to her apartment, in fact she had to pass two other stores of the same company to get to the one that offered free deliveries, but not having to carry groceries up to the ninth floor was worth it to Dorothy.

In addition to organizational supports, characteristics of participants themselves, such as good health, mobility, and cooking skills seemed to be major enablers for some of the women. All women knew how to cook and had good kitchen facilities. Examining health as factor, Elsie interestingly said the fact that she has cancer was a major enabler for her to get the foods she needed and wanted.

Because I have to keep my body in good health in order to live longer. And a good attitude. I got to have that.

~Elsie

Elsie is a breast cancer survivor of more than 30 years and sadly was diagnosed with two other cancers four years ago; this strongly motivates her to eat well, which she reports to. It is obvious her food budget is a priority for her, focussing on whole grains, an abundance of vegetables, and lower-fat dairy and meat products.

Although Martha accessed a food bank she did not perceive herself to be food insecure because she felt she kept a tight budget, one of her biggest self-identified factors enabling her food security.

I guess because of my budget for the food I need and want, it's the way I budget my money and I don't know, the biggest what, I don't know, I just live from day to day. I guess it's just me! [I learned to budget] from working and having 4 kids and I had to support them by myself because my husband was a son of a bitch. So I had to take it all on myself. Thank you. And back in them days mom used to get Old Age Pension and it was only $75/month. So she had to come live with me and I had to get out and work and she'd mind the kids… I think it's just me, yep, just me. I wrote stuff down and balanced

from right to left. I get everything I want, I mean, I don't want for anything really, just to get out.

~Martha

A unique strategy Elsie used when grocery shopping was asking grocery store staff in the produce department to split large root vegetables in half so she wouldn't have to buy the whole thing or she would ask them to cut up her vegetables into more manageable pieces.

I'll say I really don't want to buy that great big bunch of celery, because it'll rot on me. And he'll say, So? And I'll say, cut it in half! And if I buy a squash I'll say will you cut my squash, and he'll say how do you want it? And I'll say in quarters. And they'll cut it for me. And if I buy a turnip because my hands can't do it anymore and I'll say will you cut that? How do you want it? Cut it in chunks so I can just peel it and that's what I do… I thought, what's the sense of me buying it if I can't cut it? … Yeah, when you're a senior and you're living alone you got to, economically you got to do it. I got sick of throwing vegetables out. Well I'm not doing it anymore, because I don't have the money. And they really don't mind, they really don't.

~Elsie

5.4.1.2.Mesosystem

Bronfenbrenner describes the mesosystem as a set of interrelations between two or more settings in which the [senior] becomes an active participant (109). The enabling factors uncovered within the microsystem serve as a starting point for examining the mesosystem as interconnections are revealed across these settings. Different types of interconnections can occur between settings (109). For these women these interconnections included a physical transition (e.g. senior spending time at home and at a congregate meal site); being connected to another setting indirectly through a third party (e.g. senior communicating via telephone to a VON staff person to place her Frozen Favourites order); and having knowledge about a setting gained from something remote as a library book (e.g. reading an advertisement for Home Grown Organics Food in the local newspaper).

Looking at the connections between and among the everyday settings of the participants, all enablers in the microsystem that require the participants to interact with persons outside their home setting could be included in the mesosystem environment. Therefore, referring to Table 8, all microsystem enablers save the physical environment enablers, the personal strategies, and the first two personal health enablers, involve the participant interacting with external settings and can be classified as mesosystem level enablers.

The enablers listed in Figure 3 involve multi-setting participation on the seniors' behalves, just one type of interconnection possible between microsystems. Therefore factors listed in Figure 8 and Table 3 are not exhaustive of the perceived and identified enablers and barriers affecting the women participants at the mesosystem level. Use of a transportation service will be used to highlight this concept. There are two main points of interaction involved in using a taxi, the customer interacts with the coordinator on the phone and the driver, plus she interacts with the people in the second setting she is travelling to. Not all participants in this study had positive cab experiences and therefore did not view them as an enabler to accessing food. Martha, however, was quite satisfied with her cab company of choice.

Oh yeah, oh yeah. [Cab company], you're in good hands with the [Cab company]. Sometimes they walk me right to the elevator. They'll say okay [Martha] and they'll walk you to the elevator. Like last night they got out of the cab and walked me right to the door. Yeah, it was really nice. They look after you. I've never taken another cab but the [Cab company]. They know me right, I can pick up the phone and they say okay [Martha], what time.

~Martha

5.4.1.3.Exosystem

The exosystem consists of one or more settings that do not involve the person as an active participant but in which events occur that affect, or are affected by, what happens in that setting. Examples of structures exerting controlling and regulatory functions on seniors' micro- and meso systems, and ultimately positively affecting their ability to access the food they needed and wanted, include federal government policies on the Guaranteed Income Supplement (GIS) and GST/HST credit.

When asked if her financial security increased once she turned age 65 and started receiving GIS, one woman's reply was:

Oh man yeah, because look I got a $400 cheque every month with the Supplement and I was thinking I was living like a Queen! I really, really was.

~Elsie

Discussions of the GST/HST benefit arouse when reviewing the Affordability Scenarios. The women often joked with me that it was "like Christmas" when those cheques came in four times a year. They never knew just how much they would get when they ticked the GST/HST return option on their income tax but any amount was always appreciated.

Yeah, [my] GST, it went up to $90 this year, I was surprised.

~Dorothy

Another example of structures exerting controlling and regulatory functions that affect lower levels of the senior's environment are organizational policies at food banks. FEED NOVA SCOTIA (FEED NS), a member of the Canadian Association of Food Banks, has evolved to become the provincial collector and distributor of food items for over 150 member agencies across Nova Scotia (128). Their policies and standards help

ensure all persons in need can access similar types and amounts of food, regardless of their geographical location. Typically clients can access a food bank once a month and, depending on the number of people in the household, they are provided set amounts of staple non-perishable food items. Perishable items such as produce and bread products are distributed more liberally when available.

I just get the food once a month, they give me quite a bit…there's one counter there where you pick out whatever you want, and the other counter the bags are already filled with canned stuff.

~Irma

Well sometimes like if I need, say if I need onions or anything like that, I'll phone up and see if they've got any and if they have well [volunteer] will bring it down.

~Joan

Policies and programs enacted by all levels of government can affect the everyday lives of seniors. The Nova Scotia Department of Community Services, part of the provincial government, offers a Seniors Rental Housing program which is designed to provide adequate, affordable rental housing to senior citizens and other individuals in need. Residents are charged rent based upon 30% of their gross monthly income. The operating losses are shared by the Province of Nova Scotia, Canada Mortgage and Housing Corporation and the relevant municipality (129). Seven of the eight participants were clients of this program and therefore were protected from spending a disproportionate amount of their income on shelter.

They always take a third because that's their share of the rent. Every time rent comes up they take a third of that, whatever you get, so they can't put any more on for rent because it's subsidized housing.

~Thelma

5.4.1.4.Macrosystem

The macrosystem is the outermost layer of the environment comprised of cultural values, customs, and laws. A prominent example of value of human life and a desire to help someone in need is the charity model programs such as food banks and soup kitchens in Canada are based on. The existence of these programs is largely dependent on individual, food retailer and farm industry monetary and food donations, as well as volunteer human resources. People, largely from the faith community and poverty activists have organized these charity programs so that thousands of individuals and households across Canada can access temporary solutions to their hunger and poverty problems, including three of the women in this study. Martha, Irma and Jean all reported they felt as if staff and volunteers at their respective food banks cared for them, they experienced individual attention and felt valued.

Another example of Canadians valuing human life can be seen in the establishment of the various forms of social welfare, in how financial and social programs shirted from residual to more universal programs. The first Old Age Pension, enacted in 1927, was birthed out of Canadians calling for a social pension system that compensated older Canadian workers for their years of toil in a younger, less developed Canada, and a desire for a pension system that would protect every senior from extreme poverty (22). This calling by many social reformers in the early 1900's established the foundation for Canada's retirement income system providing a modest income to seniors. Today's Old Age Security program established in 1952, is the fruit of their labour. The Guaranteed Income Supplement and Allowance benefits further show the federal

government's commitment and responsibility in helping lower income seniors maintain a reasonable standard of living.

> *So then I go the supplement [GIS] and that was good. [Asked if her food security increased then] Oh man yeah, because look I got a $400 cheque every month with the Supplement and I was thinking I was living like a Queen! I really really was.*
>
> *~Elsie*

The establishment of the CPP also grew from public demand, this time for a pension that was portable from job to job to supplement the OAS. Canadians also saw value in protecting families against death or disability of workers and requested this be built into a public pension. Four of the participants in this study were involved in organized employment after 1966 and made contributions to the Canada Pension Plan. Two additional participants received survivor's benefits.

Beyond pension programs, Thomas Douglas and Medicare, Employment Insurance and Workers' Compensation are all other examples of the ideological shift in Canadians' perspective on caring for their fellow Canadian, those in needs, and those (temporarily or permanently) unable to work in the labour force.

Living in a country that has made a public commitment to providing sources of financial income to senior citizens via the CPP and OAS public programs is an enabler for all participants. Likewise, living in a country where the public have organized to provide temporary relief from hunger via charitable food programs also speaks to the value Canadians place on caring for vulnerable citizens.

5.4.1.5.Chronosystem

The chronosystem encompasses the dimension of time as it relates to an individual's environment (111, 112). All participants in this study were over 65 years of

age and therefore had seen the effects of time in many aspects of their lives, creating a generational lens so that they viewed their situations differently than younger cohorts.

Four participants shared stories of experiencing food insecurity when they were mothering their children in their earlier years. These experiences provided the resolve to never experience hunger again. One woman ensured this by deciding to start going to the food bank after her husband died. Another woman stockpiled non-perishables.

No I've never ever went hungry, the only time I've ever went hungry when I was with my children… no, I never did. How I come to go to that food bank was through a woman who lived next door to me then. She used to go to the food bank. She said, why don't you go to that food bank [name]? I said I've never been to a food bank. She said well come down with me, so I went down with her, and they asked me all these questions and I've been going down ever since.

~Irma

Because I went for quite a few years where I didn't get enough to eat because I had to make sure my children were eating. And my children now look at my little cupboard that I keep my non-perishables in and they say and what army are you going to feed? And I just say, I'm not going to be hungry. I've got a whole shelf full of cans of soup. I've got a whole shelf full of things like barley and rice and instant mashed potatoes and stuff. I'm not going to be hungry again.

~Fran

As stated in the beginning of Section 5.3, the women in this study were content with their food situation and were not anxious about going hungry again. Previous experiences going hungry had caused them to undertake coping strategies to prevent reliving hunger; these experiences provided the women with a reference point in time when their situations were worse than what they are presently; thus they do no perceive their situation as food insecure.

An example of an external element within the chronosystem is the death of a loved one. Although the passing of her spouse was a sorrowful experience, it did mean for one participant she was now able to prepare and cook meals she actually enjoyed,

lifting the "obligation as wife" phenomenon. MacDonald documented that this phenomenon also occurs amongst community-dwelling senior women in rural Nova Scotia (130). When examining enablers and barriers to achieving adequate nutrition in this population, MacDonald noted participates reported finally being able to cook and eat what they enjoyed was an enabler (130).

5.4.2. Barriers

During the interviews participants were not specifically asked to identify main barriers to accessing food. The structures and factors below were pulled out from the interviews and my observations. Interestingly, many of the structures identified as enablers to achieving food security also had components that were barriers. The OAS pension was a welcomed source of income; however, not all participants had enough money for food each month. Having family members who lived nearby did not necessarily mean they were readily available to the seniors. For some, grocery shopping was a very positive experience, it was as social outing for them; for others it was a dreaded experience mainly because of the physical mobility limitations some women experienced. Below are mainly researcher-identified barriers to achieving food security amongst lower income senior women living alone in HRM.

5.4.2.1.Microsystem

Six main barriers were identified at the microsystem level (Table 8). Transportation issues seemed to be predominant, especially with the three women with either no children or no children near by. Some of the women explained, however, that even though family members lived close by that didn't always equate to rides to grocery stores or medical appointments.

I used to get my daughter to come with me. But she's too busy now.

~Martha

Oh I'll ask them. You know kids today. My granddaughter for example, she's a party animal right, oh Nan, yeah, sure Nan I can take you Saturday, that's fine. So Saturday will come [and she'll say] Ah, Nan, do you think can get your groceries and go to the [store] and go to Wal-Mart in an hour? [Participant replies] I don't think so [granddaughter], I don't think so! Well, you see then cuz a friend of hers calls and they want to go somewhere, so where's the priority? Nanny's certainly not first priority. Friends are. But that's the way they are.

~Joan

For most of the women, having to pay for transportation meant they would make less frequent trips to the grocery store. Five of the women only went shopping, or had a friend pick up their groceries, once a month. Three specifically reported this was not frequent enough and they resorted to personal food management strategies or food banks to gain access to food. Monthly grocery orders meant large heavy bags to carry and unfortunately some of the produce would go bad before they could use it all.

I suppose if I went more often I wouldn't have to throw out food. I wouldn't have to waste that much… You see we don't have a very big freezer here, just what's in the fridge.

~Dorothy

A couple of the participants mentioned they would like to have more room to store and/or freeze food. One lady had a bungee cord wrapped around her fridge freezer door it was so full; she didn't have room in her apartment for a small-sized chest freezer.

While in general the women were very appreciative of the various organizations in their communities that offered meal programs, some of the women were concerned about the lack of choice and the high cost of the meals available.

Your only choice is take it or leave it. A lot of foods I'm allergic to and they used to substitute but now the new the director's decided no no, no more substitution… well they'll still do substitutions if they're going out of this building to deliver. But we're considered "in house" so they don't.

~Fran

Yeah, I didn't like them. They were expensive too…I like cooking my own food, you know? Because then I cook it the way I want it. I might not like that, whatever they bring, I might not like that because you don't have a menu… you take what they give you.

~Joan

All of the women reported having cooking knowledge and skills, and adequate kitchen facilities to prepare food in. However, lack of motivation to cook for oneself was a barrier to cooking and health problems often interfered with their ability cook, either because they themselves felt too ill to eat or arthritis decreased their dexterity.

Oh yeah, my bad days. Some days I don't want to eat and food don't taste good, the whole nine yards. And I try to find something that will satisfy my palate, and about the only thing that satisfies is hot chocolate, things I really like, but then I get turned off that. And I end up just eating toast. Toast with a lot of margarine. It seems like the fat, I'm craving the fat, so things like hot chocolate, and the toast.

~Elsie

Well my hands don't let me do too much cooking because they're so crippled.

~Fran

5.4.2.2.<u>Mesosystem</u>

The family is the closest, most intense, durable, and influential part of the mesosystem (112) thus it was interesting to hear how family members, wanting to help increase their loved one's access to food, were at the same time creating barriers to the participant's independence and food security. Elsie spoke passionately about the wonderfulness of her daughters and their partners. For example, while they would always offer to take her grocery shopping, the experience was rushed and not enjoyable for Elsie. She was unable to be selective about her produce, take the extra time to get her

squash and turnips cut and peeled and the whole social experience of going out shopping was denied.

Oh yeah- much prefer [shopping alone]! I know, God love their heart, they're doing the best they can but they don't understand that I have a life too. It's almost like get in and get it over with.

~Elsie

Similarly, it has been noted in the literature that reliance on others to get groceries or to go grocery shopping with, can be problematic for seniors. Family members may be less willing to use coupons, less willing to buy no name products, conduct price comparisons, or use other money stretching shopping practices; thus ultimately the grocery order will cost more, further contributing to seniors' income-related food insecurity (19). However, none of the participants in this study specifically cited these problems.

Problems at the manor where one woman lived between residents, superintendents and the landlords resulted in closure of the common room. This was a great loss to the participant as she was denied a place to congregate for tea and snacks socialization.

That Common Room was my living room. I said I'm a people person and I like to be around people… Now when we were in the Common Room all the time I used to take bags of cookies down you know and that was for treats for our coffee or tea. Now [that it's closed] I was doing that down at [friend's place] but then I kind of overwhelmed her because there weren't enough people to eat them.

~Margaret

Sometimes inter-setting communications created barriers to seniors accessing the nutritious food appropriate for their health condition(s). Two of the women reported messages were not always clear when health professionals attempted to communicate to them on what they should be doing at home to manage their health conditions. For

example, Thelma had very uncomfortable acid reflux problems, among other health issues. She was instructed to try various things such as retiming her large meal of the day and avoiding certain foods but was unsure why or what advice is matched to which of her health conditions. After Elsie's bowel resection due to cancer she did not remember receiving any kind of advice about which foods are gas producing and which foods she might want to limit or avoid.

> *No, they didn't tell me, they told me to eat everything. So when I started doing that I went back to [doctor] and I said boy these things are playing havoc on my stomach. He said what do you mean? I said so full of gas and bloated and big. He said your stomach will get used to it but it never ever did. I can have two fruit but then that's stretching it.*
>
> *~Elsie*

5.4.2.3.Exosystem

Examples of structures exerting controlling and regulatory functions on seniors' micro- and mesosystems, and ultimately negatively affecting their ability to access the food they needed and wanted, include public health policy on dental care, public and private pensions, food banks' extra-governmental status, organizational policy on size of retail stores, municipal transit system policy and subsidized housing policy. Each will be discussed below.

Thelma's lower dentures were uncomfortable and inhibited her ability to chew certain foods. She got her dentures over 10 years ago when she was living in Dartmouth, close to the Community College that happened to offer a dental assistant program. Dentures made by students in this program were much more affordable than when ordered through a dentist, but involved a lot of visits to the College for fittings and consultations. Now that Thelma lived in Hammonds Plains, about 38 km from the College and no longer had a car this was not a feasible option.

I need lower teeth, don't know whether I can get them or not but I got to get teeth.
~Thelma

In Canada, dental services are generally not provided via the public health system (131, 132); costs are mostly (52%) shared by private insurance and 42% are funded out-of-pocket by individuals (131). In a provincial pilot study measuring the oral health status of seniors in Nova Scotia, results showed over 75% of participants had no dental insurance, over 90% spent money out of pocket on oral health care, and 34% reported not being able to afford the dental care they needed (133). The World Health Organization has described oral health as a determinant of quality of life (134). The oral cavity has been described as the gateway to good nutrition; pain and discomfort in this area will ultimately affect one's ability and desire to consume food (135).

Employers (and unions) can exert large amounts of control on employees. Part time or contract employees often cannot opt into benefit packages or contribute to an employer pension plan; this was the case for three of the women in this study.

Oh no because I only worked there 14.5 years and I was only part time. No benefits, no nothing.
~Elsie

Also, women who worked prior to 1966 did not benefit from the CPP.

Canada Pension Plan, I don't go for Canada Pension Plan, because I stopped, because I stopped working before Canada Pension Plan came out.
~Fran

When I worked they didn't have CPP.
~Martha

The three women who accessed a food bank indeed perceived this as an enabling support. However, it has been suggested that the institutionalization of food banks is part

of the food security problem (136). Food banks attempt to satisfy the chronic dependency of Canada's poor via charitable food donations; while perhaps because of their own existence governments, and society in general, turn a blind eye to the chronic hunger problem in our own country. Just the existence of over 3500 food banks and affiliated agencies (91) suggests neither federal nor provincial governments have put policies into place to provide adequate social support to address poverty, the underlying cause of hunger and individual and household food insecurity.

Organizational policies affecting grocery stores affect seniors' ability to physically access food. The size and layout of grocery stores was cited as a barrier for some of the participants. As the retailers continue to expand, both in product diversity and square footage to offer "one stop shopping" seniors and those with mobility issues will continue to struggle to navigate the convoluted aisles and walk the significant distances between bread and milk.

Oh it's too much walking around. The stores are too big and my foot's too sore, I could never get around it.

~Martha

So anyways, I had never been in this Sobeys store. I thought that's alright, I went in by myself, not knowing where anything is I ask…oh, you want potatoes? He said they're waaaaay down there. Well I started walking down well my legs started seized up. If you've got something to lean on, you know… So I got down to where the potatoes were, after, I don't know how many times I stopped. And I asked someone, could you tell me where the milk is please? And they said waaaaay up there. So I was making my way there and who should walk in but my niece's husband. And he said to me how you doing old woman? Having a hard time? And he takes my arm and he says I'll help ya.

~Joan

I locked horns with the manager of [store] when it was over out here. I said you say your store is accessible…it's not. Well he said did you have any trouble getting in? I said no, no problem at all, but where can I go when I get in here? The aisles have all these racks of sale things, going up the aisles they're unloading things, you've got posts, and I said once you get in, the racks of clothes are so close together you can't get the wheelchair

around them. I said this place is not wheelchair accessible. And he got very nasty with me about it. So I don't go to [store] anymore.

~Fran

The first five examples of structures/policies acting as barriers at the exosystem level (public health policy on dental care, public and private pensions, food bank status and size of retail stores) could exist within any geographical area. The next example is specific to the Halifax Regional Municipality. The Metro Transit Access-A-Bus service is a shared ride, door-to-door, public transit system for persons who are unable to use the conventional transit system, due to a physical or cognitive disability and are declared eligible through a registration process (137). Although noted that it is meant to supplement the existing transit system and it is not a taxi service, it operates only within 610 meters of an urban transit route in HRM. For Thelma living in a small seniors' manor in Hammonds Plains this means she is unable to access this economical transportation service; Access-A-Bus used to come to her door but the policies have since changed.

I can't get on the Access-A-Bus because they don't come up off the Metro Transit line… oh they used to come up here; about four years ago they stopped that…Well they used to. Oh they're really sticky, miserable. I used to go to rehab on it and everything else you know.

~Thelma

The inflexibility of this accessible public transit service was also noted by another participant:

You have to give exactly two weeks notice and then they'll work you in, so therefore you have to make your appointments… [well in advance]. Yeah, and every year you have to have a doctors certificate and go into them saying you need it. And it's not good…you can get up in the morning and say I think I'll go get groceries today… we can't do that.

~Fran

Nova Scotia's Department of Community Services Seniors Rental Housing program was identified as an enabling factor with regards to seniors' ability to access food because it protected seniors from spending a disproportionate amount of their income on shelter. Two women, currently living in subsidized housing shared that it can unfortunately be quite difficult for people to get into the program. Fran waited five years for an apartment to become available and Elsie is confident the only reason she waited a mere month was because she was good friends with someone 'high up' in the municipality who was speaking on her behalf.

Oh yeah. Definitely, I had somebody speaking for me, although he will never admit to that but I know he did. But, and then, if you're in dire need, like suppose your husband died and you've got nothing or suppose you've been battered and you're leaving the guy, that's dire need, or you're sick, you will get in to the manor at the age of 55, or sometimes 50. [but] oh yeah, big time. Big waiting list.

~Elsie

The 11 page Senior Rental Housing application form alludes to the amount of "red tape" applicants have to go through to qualify; and, just because they qualify does not mean they will be able to become apart of the program in the near future. According to the application form, there are 2265 units allocated to the Seniors' Housing Rental Program throughout HRM. Using 2003 statistics (41 603 seniors in HRM) (8) this means subsidized housing is available to approximately 5.4% of the older population. It must be noted though that these manors and apartments are also open to adults under 65 years of age, depending on availability and the applicant's circumstances.

5.4.2.4.Macrosystem

An obvious shift in family and societal values was identified as a barrier to aiding participants' access to food. A couple of the women talked about their children or

grandchildren being too busy for them, or that they didn't feel comfortable phoning or asking favours too much because they didn't want to bother their kids. Even just a couple generations ago it was more common for families to live in the same area; of the six participants with children, five had children that lived over two hours away. An example of a shift in family values is that in previous generations it was more common for an aging parent to move into their children's place. The following two quotes show this shift in family and societal values.

And back in them days mom used to get Old Age Pension and it was only $75/month. So she had to come live with me and I had to get out and work and she'd mind the kids.
~Martha

Before I moved in here I held down three jobs and I was living with my daughter, well she got married and well, I didn't wait for her to tell me to move.
~Elsie

None of the participants appeared bitter about having children live across the country, or bitter that they were living on their own instead of with their kids. The shift in family and societal values could also speak to the trend that more seniors want to keep their independence and are living in the community longer (127). Or it could go back to the generational lens described in Sections 2.2 and 5.3, allowing them to be satisfied with "just the way things are".

A lack of social programs targeted to Canada's seniors that involved a food component was another cultural value identified as a barrier to aiding participants' access to food was. The federal government supports programs targeted to families with young children to help increase their access to food. For example, the Canadian Prenatal

Nutrition Program[8] provides limited nutritional supplements to eligible participants. This program exists additional to lower income households with children receiving the National Child Benefit Supplement (NCBS), a supplement which provides low-income families with additional child benefits on top of the base benefit administered via the Canada Child Tax Benefit system. There are no government-funded food programs targeted at the lower income elderly population, such as those receiving the Guaranteed Income Supplement.

5.4.2.5.Chronosystem

While death of a spouse or loved one could enabled one widowed partner the freedom to cook and eat meals they preferred, for some it resulted in decreased motivation to cook just for themselves or a disordered eating patterns. Most participants, widowed and divorced, revealed that the television was now their company at meal times. Some said they often didn't feel like cooking, or would just forget to eat. Some women found they tended to snack more because they were bored and it helped pass the time.

It's been noted numerous times that the previous experiences of going hungry affected the current perceived food situation of the women participating in this study. For some of the women the memory of food insecure times motivated them to take measures (e.g. stockpiling food) in effort to never going hungry again. Therefore, previous food insecurity could be considered an enabler to achieving food security because it causes individuals to undertake food management strategies to avoid going hungry. However, food insecurity encompasses more than just hunger, there are four components to the concept: quantity, quality, psychological and social (30). Memories of going hungry in

[8] Canada Prenatal Nutrition Program (CPNP) provides funding to community groups to develop or enhance programs for vulnerable pregnant women until their children reach six months of age. The program is funded by the Public Health Agency of Canada.

the past (insufficient quantity of food) might mask personal concern about lack of variety or an unbalanced meal (inadequate quality), so long as they're not going hungry. Previous food insecurity could therefore also be viewed as a barrier because if seniors do not perceive their situation to be serious or are unable to identify a need, they are very unlikely to seek help and are at increased risk of malnutrition.

5.5. Research Objective #3 – Affordability Scenarios

To explore whether or not hypothetical household scenarios created in the researcher's previous independent study work accurately reflect the affordability of a nutritious diet for lower income senior women living alone in urban HRM.

In the second half of the interview the affordability scenarios (Appendix C) were presented to participants. I explained the general concept behind food costing studies and how the presented scenarios were part of research I was involved in looking at the adequacy of public pensions to purchase a nutritious diet. As described earlier, affordability scenarios were adapted from our previous work (12) and depict the hypothetical financial situation for two lone senior women relying solely on public pension as an income source. Scenarios were presented to help the participants explore the various factors that affect their ability to access foods, and specifically the adequacy of the pension to meet their needs.

Some women were very candid disclosing exactly how much income they received each month and what bills their income went towards. This section will describe the participants' reaction to the presented scenarios, supported by direct quotes. Revised scenarios are then presented in Section 5.5.3 based on participants' observations and personal experiences.

5.5.1. Income

5.5.1.1. Public Pensions

When considering all sources of income, total income for all eight women participating in this study was greater than the total income estimated in the two presented scenarios. All received over $1000/month, although most only slightly more than this.

I get Canada Pension, Old Age and GIS; it comes in a little over $1000.

~Joan

Okay Canada Pension I get $197.41. And ah, Old Age I get $1030.19…that's everything.

~Elsie

I don't pay income taxes, I don't make enough to pay income taxes. But my Old Age is considerably more than this. And my Guaranteed Income Supplement, I don't know what I get for that, $150 or something. Canada Pension Plan I get a lot more than that. And my GST benefit, I just got my cheque, hasn't been cashed yet…

~Margaret

Six of the women received Canada Pension, whether a result of their own previous employment or a CPP survivors' benefit as a result of their deceased husband's contributions. Because the CPP was not established until 1966 (22), some women who worked earlier in their lives (e.g. prior to marriage) were not able to benefit from this public pension.

Canada Pension Plan, I don't go for Canada Pension Plan because I stopped, because I stopped working before Canada Pension Plan came out.

~Martha

When I worked they didn't have CPP.

~Fran

Some women felt they benefited greatly from their CPP cheque.

$162 a month, which is good, you can't sneeze at that.

~Elsie

Margaret, who is 84 years old, compared her situation to the scenario of the widowed 85y female. While she received a considerably lower amount from GIS, her CPP was considerably more and she was the only participant to receive a private pension from her employer, albeit a mere $73/month.

5.5.1.2.Goods and Services Tax Credit

The women often commented throughout the interviews that the OAS and GIS amounts in the scenarios (Appendix C) were lower than what they personally received. This is not surprising since these figures are 2005 figures (12) and therefore pension amounts have since been adjusted over the past two years according to the Consumer Price Index.

The GST/HST credit is available to Canadian households with low to modest incomes. All participants were eligible for the GST/HST credit and received this quarterly benefit. Two women commented that they receive around $90 each quarterly cheque, whereas the lone seniors in the scenarios receive approximately $57 quarterly. The other six women did not offer an amount; however, when talk of the GST/HST credit came up during interviews I often joked about it being like a Christmas present from the government and the women would agree.

5.5.2. Expenses

5.5.2.1.Shelter/Rent

When discussing the various expenses listed in the affordability scenarios, the women had many comments on the estimated amounts and what was considered to be an "essential" expense. Seven of the eight women paid significantly less than the average rent for a one bedroom apartment in Nova Scotia. These women lived in income-geared housing and therefore their rent was a percentage of their annual income. The Department of Community Services Seniors Rental Housing, designed to provide adequate, affordable rental housing to senior citizens (129) is managed by different Housing Authorities across the province. In the HRM this program is managed by the

Metropolitan Regional Housing Authority so seven of the eight participants submit an annual income statement to the authority and "Housing" calculates the monthly rental charge, which equates to 30% of gross monthly income.

Every year you have to call Ottawa and get them to send you a letter saying exactly what you're getting then you give that to Housing and they figure out 30% of it, they take. And the rest you've got for your TV and your phone and your groceries and to live on. It doesn't leave you a lot... Before you get your Old Age pension you only pay 25% of what you're getting, but once you hit 65 you pay 30%...I only pay $430-something.

~Fran

I had a paper and I had to send it into housing… Well there's what I pay out here, what I pay out a month…Like I pay $337 now.

~Joan

Whether utilities were included in the rent depended on the seniors' manor. For example, Thelma was relieved that even though the cost of oil was increasing at a steady rate, this wouldn't directly affect her because her rent, including utilities, was always only 30% of her income.

Now it says here rent, my rent is $460, but you take $25 off of that and that's what they charge for heat, lights and utilities. [So it's included in your rent?] Yeah. They were going on here one time about our rent's soon going to go up because the heat and lights are going up…Every time you get a raise they take whatever's a third of that. So they can't take any more on our rent…They always take a third because that's their share of the rent. Every time rent comes up they take a third of that, whatever you get, so they can't put any more on for rent. Because it's subsidized housing.

~Thelma

On the other hand, Dorothy, who lived in a different seniors' manor received a power bill in addition to her rent.

Now the power bill, I always think they favour me. For two months and it's not $40, it's $39.73

~Dorothy

Seniors fortunate to be apart of Seniors Rental Housing program enjoy a rent that is set in consideration of their total income. The lone participant who did not live in income-geared housing paid an amount very close to the shelter expense figure in the original Affordability Scenarios. She unfortunately experienced many stressors around her rent and dealings with her landlord.

I have to pay $600 in rent, $125 for oil and $75 for electricity…I've been here 19 years and my landlord he don't look at income at all. He's an old age pensioner himself. Of course he shouldn't be getting it because he's lousy at money, but he owns all these duplexes around here besides a bunch over in Halifax. All he wants is a handout for money…and he put my rent up. You're not suppose to jump your rent up $75 in a year and he jumped mine up $75 in a year.

~Irma

When asked about investigating if there were maximum percentage rate rent was allowed to increase in a year and fighting this rent increase she responded…

I didn't bother. Didn't bother, I just let it go…I was too scared he'd give my notice to get out, he's that kind. So I just don't bother, I just take whatever he dishes out to me.

~Irma

Irma spoke of sewage problems, how her basement had flooded and she lost all of her deceased husband's belongings. She also has had a cinch bug infestation in her front yard, ant problems in her house and her landlord has done little to nothing to effectively deal with any of these issues, all the while increasing her rent.

He increased my rent for two years in a row. I was paying $424 for the longest time and all of a sudden he jumped it to $500 and then in two years he jumped it from $500 to $600.

~Irma

In Nova Scotia rental tenants are not protected from rental increase caps (138). Landlords can choose to increase rents at their discretion, this can occur annually, providing the landlord gives four months notice.

Irma's son and daughter-in-law who live in Edmonton Alberta came to visit in summer 2005 and at that time wanted to investigate if how Irma's landlord was treating his tenants was legal. Irma didn't want them to pursue anything for fear of being evicted. She had lived in this house for 19 years and wasn't keen on moving. She shared with me during the interview that her son and his wife were coming to visit again in July 2007 and this time she had resolved that she was going to let them look into the matter.

But my dear son was down two years ago and him and his wife wanted me to go down to the Housing Authorities or something and take my rent receipts down and show them to them. So I'm waiting til when he comes home next month cuz I'm gonna do something…[I'll] save all my receipts and I'm gonna do something. And I'm gonna tell them about that front yard, and same with that there outside window, it's all caving away there, the sill on the outside window. Like I say he don't care what kind of shack you live in, as long as he's got his hand out for the rent.

~Irma

(Un)fortunately Irma's daughter-in-law's sister had similar problems with her landlord so the daughter-in-law was familiar with the paperwork and process necessary for tenants to file a complaint regarding a landlord. From Irma's account, her son and daughter-in-law seemed very keen to get Irma out of her current situation.

5.5.2.2.Telephone

Telephone services cost the participants much more than the allocated basic rate of $28.75/month recorded in the affordability scenarios. All women had long distance plans which they felt was crucial to keep them connected to family living far away. When discussing phone services an emergency response-type service was often mentioned. An

example of this type of service is Northwood Intouch, a personal emergency response program, formerly known as Life Line. Northwood Intouch is designed to summon help in an emergency when the client can't reach the phone. Clients wear a button, as a pendant or bracelet, which activates a speakerphone putting them in touch with the operator who in turn phones a first responder. The basic program costs $38/month. A couple of the participants shared stories of how this service has been highly beneficial for them as having a fall when living alone can have serious consequences. One woman was adamant that it should be built into the Pharmacare program.

I think not enough have it. I think that should be a basic thing that you should have to have. Some before they turn 65 if they have any type of medical problem and it should be required when you turn 65.

~Fran

I call it my panic button. Oh I've used it a lot.

~Margaret

One lady had Life Line because her son paid the bill for her. Unfortunately her son passed away last year and she wasn't able to keep the service, she explains why:

…because I couldn't afford it. In order for me to have something extra I have to do without. But I'm in such a good position right now; I don't want to do without anything.

~Elsie

Another service that was often brought up when discussing telephone expenses was cable. Three women reported having cable and another three were watching cable television when I arrived for the interview; two women did not comment whether or not they had cable. Although admittedly it wasn't a necessity, it was viewed as an important component of their daily routine and helped to address the isolation that many of these

women experienced. Many watched television while eating their meals alone, and many would watch their favourite shows to help pass the time.

If you don't have cable you can't watch TV … like I've got digital cable because I can't go out. I mean the girls will come in to play cards and sometimes we'll go to Bingo every once and a while but that's the only enjoyment I have, know what I mean?

~Joan

5.5.2.3.Transportation

The cost and feasibility of transportation was a major reoccurring theme throughout the entire set of interviews. None of the women owned their own car and therefore relied on friends, family, taxis and other transportation services to get around. It was difficult to get a sense of what an appropriate monthly amount would be to allocate to this expense. Most women heavily relied on friends and family for rides so there was little cost associated with their transportation needs. Only one lady took the city bus on a regular basis to get groceries. Whereas the public transportation expense in our original affordability scenarios for seniors living in urban areas was based on two round trip taxi fares and a monthly bus pass (12), Elsie felt the pass was a waste of money, she explains:

I buy tickets because I don't go out every day…But tickets you always have them, they'll never cancel or anything so if I don't go out for two months I still got all my tickets eh. And they're only $23.

~Elsie

The VON provides a transportation service, Dial-a-Ride that many of the participants spoke fondly of. Coordinated by a staff person and carried out by volunteer drivers, clients can get rides to medical appointments, grocery stores, etc. for generally $10 round trip anywhere in the Halifax area, with prices increasing slightly depending on how far outside the city limits one lives.

Dorothy used a private transportation service which cost $20 round trip, this fare was worth it to her because she always got the same driver who came to her apartment door, would help her all the way to her appointment, and was timely, reliable and extremely friendly. Friendly service was very important to all the women who relied on taxis, buses or other programs and some spoke how they'd refuse to use a certain taxi company, or refused to use the city bus system because they felt they were not respected.

It should be noted that seniors living in rural areas would not have access to public transportation, and also taxi and community transportation services may not be as available as in urban areas.

5.5.2.4. Clothing and Footwear

Unanimously the women in this study did not spend an amount remotely close to the $93.39/month estimated for clothes or footwear in the presented affordability scenarios. The clothing and footwear expense in these scenarios was calculated using a tool called the Market Basket Measure (MBM) which prices a list of goods and services in select communities across Canada; it assumes the purchase of all new clothing and footwear (139). Some of the women interviewed found clothing items at their food bank, one mentioned second hand shopping (although she hadn't gone in quite some time) and many relied on their children to buy them clothes or they received "hand-me-downs" from their daughters.

> *Clothing and footwear….I haven't bought a pair of shoes for a good 20 years. My daughter got a pair of New Balance on sale for $179, wore them once and didn't like them and gave them to me…I'm wearing clothes that I wore for a good 20 years.*
>
> *~Fran*

I haven't been out to shop or anything so the things I've got are old, if you know what I mean. Everybody says oh you have so many clothes but they're from years past.

~Margaret

I don't buy any clothes. Very few, well I buy shoes. I bought three pair last year. One's pair's right there by you, I only wore them once. There was a sale at the shoe store down on Spring Garden. And I got them at Wal Mart and the other ones down at the shoe store. One pair was $150 and they were on sale for $75. They're lovely shoes, comfortable. And the other ones were $100 and I got them for $50. But the ones I got for $50, they don't fit that good…I've only wore them a couple times, I think I'll give them to my niece.

~Dorothy

5.5.2.5.Pharmacare

Most of the women interviewed required a lot of medications and benefited greatly from a drug plan. Two women had private insurance, one through her former employer and the other through her deceased husband's employer. The other six were enrolled in the provincial seniors' Pharmacare program. Since all the women received GIS they were not required to pay the annual premium associated with Pharmacare. The co-payment plan is structured so seniors pay 33% of the total prescription cost at the pharmacy with a minimum co-payment of $3 per prescription and a maximum of $30 for each prescription, with an annual maximum of $382 (122).

We gotta pay 30%... it doesn't matter how much my medication comes to, you still only pay $30. Now this here, it's $96.95 but you still only pay $30. And same with my cholesterol pills, you still only pay $30. Those cholesterol pills are $133.82. But I still only pay $30. It doesn't matter if they were $500, you'd still only pay $30.

~Irma

For Pharmacare, you pay up to $382…yeah, it starts in April… you pay for your medication then when you hit that $382 mark well it's free until the following April.

~Joan

Sometimes, Pharmacare clients have to pay more than the maximum prescription cost of $30. This would happen in cases when a doctor prescribes a drug that is not

covered by Pharmacare (i.e. not listed in the Pharmacare Formulary), a client/doctor wants a more expensive brand of drug than the generic brand; the brand of drug the client/doctor want costs more than the maximum cost paid by Pharmacare (122). Both Dorothy and Joan shared times when they had to pay the full cost of their prescription but fortunately their doctors could fill out a form justifying why that particular drug should be covered and they were both reimbursed.

Additional to prescription drugs, all women regularly used over the counter medications that are not covered under Pharmacare, such as pain killers, heart burn or indigestion medication and vitamin and mineral supplements. These costs were not factored into the expense category and would need to come out of any remaining money at the end of the month.

5.5.2.6.National Nutritious Food Basket

According to a recent provincial food costing study (108), the National Nutritious Food Basket costs a woman aged 50-74 years who lives alone in Nova Scotia $154.91 each month in the year 2004/05. The same basket would cost a woman aged 75 years or older $150.88 each month. I asked the women I interviewed if these dollar amounts were comparable to what they spend each month on food in the grocery store. Irma, who is a self-proclaimed shrewd shopper reported spending less than the estimated NNFB costs.

> *Probably costs me about $130 by the time I get my milk and the little in between.*
>
> *~Irma*

But for the other women in this group, they reported spending between $150 and $230 per month on their grocery bills. Even with buying in bulk and buying no names

brands as much as possible, Joan reported that she still consistently came home with a $200 grocery order on her monthly shopping trips.

Well if I get a good grocery order, it could come to, well it's all according to how much meat you buy, so it could be about $200.

~Joan

It should be noted that many of the women had a hard time thinking of their grocery order in terms of only food, as it is very common to purchase non-food items like cleaning supplies, toiletries, etc. at the grocery store. When asked about their grocery bills a couple of the ladies who saved their receipts read out loud the total amount, not differentiating between grocery and non-grocery items, suggesting that the amounts they reported for their grocery bills overestimates the actual amounts they spend on food.

5.5.3. Revised Affordability Scenarios

Table 9 presents revised Affordability Scenarios where the income and expense amounts have been modified based on input received during the interviews and reconsideration of what expenses should be considered essential for senior women living alone in urban HRM. It should be noted that both scenarios represent the financial situation of a senior between the ages of 65 and 74 years of age as it was assumed the income and expense estimates would be very similar for a senior woman above the age of 75 years, except for the cost of food. The difference between the cost of a nutritious food basket for these two age groups is under $5 and therefore not a significant difference.

Income figures were obtained by calculating the average monthly amount for CPP survivor's benefit distributed to Canadian seniors in the year 2007, and the average monthly amount for OAS (distributed to all Canadian seniors) and GIS (distributed to single seniors) during the July to September 2007 period (79). This sum amounts to

$1190.42/month before taxes. After applying appropriate federal and provincial taxes the women in the scenarios take home $1032.94/month. The GST/HST credit was calculated using Canada Revenue Agency's online GST/HST calculator (140) for the July 2007 to June 2008 period. The GST/HST credit was based on a net income from the taxable CPP and OAS sources.

The revised affordability scenarios show the first household's financial situation if the hypothetical lone senior were living in an income-geared apartment. Although not represented in this research as seven of the eight participants lived in subsidized housing, the shelter expense in the second scenario is likely more realistic as only 4% of seniors in NS access the Seniors Rental Housing program (8). Also participants in this study admit there is quite the waiting list for this program, so more often than not, seniors living in the community are subject to market rental prices.

Aliant, the only communications provider to service all of Nova Scotia, provides basic local phone services for $25.20/month, the cheapest long distance plan is $18/month and basic cable is $25/month (141). Together with taxes this amounts to $77.75/month.

Five of the eight women interviewed used some type of telecare service since they had turned 65 years of age and were living on their own. Two of these women spoke so passionately about how they considered (a Lifeline-like service) an essential service. Thus the cost of the basic Northwood Intouch program ($38/month) was incorporated into the revised scenarios.

The transportation in the revised affordability scenarios reflects one trip a week (four a month) using VON's Dial-a-Ride service. This amount ($40/month) was

considered appropriate as all women got groceries once or twice a month, all mentioned needing to get to medical appointments on a fairly regular basis, and all used a variety of transportation services with various prices attached to those services.

According to data from Statistics Canada's 2003 Survey of Household Expenditures, senior-lead households spent three percent of their annual income on clothing (8). This data reports on spending patters of households where the head of the household is over the age of 65 years, there is no distinction between lone seniors or seniors living with family. If I were to use this percentage and apply it to a lone female senior relying solely on public income programs (OAS, GIS and CPP) this would equate to barely $36/year spent on clothing. This is an unreasonably low figure to incorporate into the revised scenarios. However, I was unable to estimate an amount for this expense based on participant input as the women interviewed in this study simply did not buy new clothes. Thus the $20 clothing and footwear expense incorporated into the revised affordability scenarios would allow a senior to save up to buy one pair of good quality shoes each year plus go second hand shopping to purchase one "new" item each month. This is a very conservative estimate, and I myself challenge the assumption that seniors should rely on second hand items to meet their clothing and footwear needs.

The Pharmacare expense is the result of spreading the maximum co-payment ($382/year) across 12 months.

Data to calculate food costing figures were collected in 2004 and 2005 so the Consumer Price Index (142) was applied to original figures to estimate the current NNFB cost seen in Table 9. According to CPI, there was an approximate $10 increase in the NNFB costs from time of data collection (2004/05) to current costs, which are $164.27

for a female between 65-74 years of age, and $159.99 for senior women above the age of 75 years.

Table 9. Revised Affordability Scenarios Comparing Potential Incomes to Basic Expenses for Lone Senior Women based on Study Participants' Input and Reported Situations[9]

	Lone Female Senior (65-74 years)	Lone Female Senior (65-74 years)
Income-geared housing *	yes	no
Monthly Net Income ($)		
Old Age Security (taxable)	353.48	353.48
Guaranteed Income Supplement	436.13	436.13
Canada Pension Plan for Survivors (taxable)	217.59	217.59
GST/HST benefit†	21.99	21.99
Total	**1029.20**	**1029.20**
Monthly Basic Expenses ($)		
Shelter/Rent	$357.13	$608.00
Telephone & Cable	$77.75	$77.75
Northwood Intouch‡	38.00	38.00
Transportation§	40.00	40.00
Clothing, footwear, etc.	20.00	20.00
Pharmacare	31.83	31.83
Cost of the NNFB‖	164.27	159.99
Total	**728.98**	**975.57**
Funds remaining for other expenses¶	***300.22***	***53.63***

* Rent is subsidized and equals 30% of gross household income.
† Goods and Services Tax/Harmonized Sales Tax
‡ An example of a telecare service offered throughout Nova Scotia.
§ Cost of four roundtrip rides using VON Dial-a-Ride's service in urban HRM.
‖ National Nutritious Food Basket data collected in 2004/05 (108) and adjusted to 2007 values using the Consumer Price Index (142).
¶ Other expenses include other routine costs, such as personal hygiene products, household and laundry cleaners, costs associated with physical activities, non-prescription medications, education or savings for unexpected expenses or emergencies, and other miscellaneous expenses (12, 13).

Overall, the financial situation of the two hypothetical women in the revised affordability scenarios is better off than that what was described in our previous work (12) (Appendix C). This is because all three sources of public retirement income programs (OAS, GIS and CPP) were allocated, and transportation and clothing and footwear expenses were significantly decreased. By including all three public retirement

[9] Methodology for calculating income and expenses based on methodology described in Green et al., 2008 (12).

income programs we assumed all seniors apply for the GIS whereas data has shown that approximately 100 000 seniors do not receive their GIS cheque due to failure to renew their application through the income tax system (23). Of great importance to note is that elderly senior women are the most likely to neglect to subscribe to GIS (23).

Table 9 would lead one to assume seniors relying on public pensions should be able to afford a nutritious diet. However, affordability scenarios are simple comparisons of potential income and expenditure estimates; they are not an account of actual monthly transactions, nor do they reveal the impact of (in)adequate income on an individual's actual food intake (25). They also do not include the numerous other items households must purchase on a regular basis such as personal hygiene products, household and laundry cleaners, savings for unexpected expenses, etc., as described previously (12, 13, 25). For example, in this study most women reported regularly using over-the counter medications that are not covered under Pharmacare, such as pain-killers, heart burn or indigestion medications and vitamin and mineral supplements. These non-prescription items are not included in the revised affordability scenarios but would clearly be required on occasion in some situations and could potentially negatively impact the food budget.

If I had the opportunity to conduct follow up interviews with the women it would be interesting to solicit their comments on these revised expense estimates. Specifically I'm interested as to why they don't purchase any new clothing; do they feel guilty spending money on themselves, or can they just not afford to? I'm also interested in the number of over the counter medications and other health-related items not covered by Pharmacare they need and buy. I also would like to ask questions around savings. Some women mentioned that they lived cheque to cheque but I didn't ask if they put away a

certain amount each month for an emergency fund, or if they operated out of just one bank account.

There is risk that these comparisons of income versus expenses may simplify how food insecurity is experienced by lone senior women, as the scenarios fail to capture the many other factors beyond finances contributing to this issue. This is why I undertook this thesis research. Quantitative work, such as what I completed in my previous independent study research (12), can be more informative when complimented by qualitative descriptive stories, to expose the multiple factors influencing food (in)security in this specific senior population.

6. DISCUSSION

6.1. Introduction

The purpose of this study was to uncover the experiences of lower income community dwelling senior women living alone in an urban area of Nova Scotia - Halifax Regional Municipality (HRM) - with accessing the nutritious foods they need and want. To help uncover the experiences I focused on three questions that tied into the research objectives: 1) How do lower income senior women living alone experience food insecurity, and what are the meanings behind these experiences; 2) What are the enablers and barriers to accessing nutritious food for these women, and; 3) Do the affordability scenarios developed previously (12) exploring the adequacy of public pensions to afford nutritious food, accurately reflect the incomes and expenses these women have on a monthly basis?

This thesis tells the stories and shares the opinions of eight magnificent senior women, each living alone in urban parts of the Halifax Regional Municipality and in receipt of the Guaranteed Income Supplement. I chose to interview lone women based on results from our previous work, which suggested seniors living alone were at higher risk for experiencing income-related food insecurity compared with seniors living with a partner (12); and national data on poverty amongst seniors showing that unattached senior women were at greater risk for poverty than unattached men or senior couples (23). Although inadequate income is the most important determinant of food insecurity at the individual and household level (1), I was interested in exploring what other factors influence the ability of these lone senior women living in HRM relying on public pensions to access the foods they needed and wanted.

This is the first Canadian study to collect qualitative data on how seniors experience food insecurity. To truly understand what food insecurity means for seniors, the concept was explored using a phenomenological approach with a focus on how health, world view, and other non-monetary and monetary factors affect what seniors eat and how they perceive their food situation. These factors were examined within the framework of Bronfenbrenner's Ecological Systems Theory (109). This framework served as an analytical tool to enable me to examine the many layers in the seniors' environment where these factors exert their influence.

This discussion highlights some of the most interesting findings uncovered in Chapter 5. Particularly, I focus on the participants' perception of their food security status compared to my perceptions as a researcher; how health problems affected their ability to access nutritious foods; the role of charitable food programs in preventing food insecurity in seniors and the protective affect living in income-geared housing has on the food budget. I then end the discussion with my personal critical reflections on this research process as a whole.

6.2. Perception versus Reality

Not one of the eight women interviewed in this study considered herself to be food insecure. As someone who studies this phenomenon I was able to identify multiple coping strategies the women used to stretch food further or to bring food into the house when it was of concern that they might run out. Nonetheless, whether they accessed a food bank, could barely cook their own meals due to health issues, or were completely reliant on someone else to take them to the grocery store because they couldn't drive or they could barely walk, they did not consider themselves to be food insecure.

The idea that seniors' perception of their food security situation is rooted in their previous life experiences and world view has been noted in the American literature (19, 35, 37), and has implications for both the findings from this thesis and for policy. I found as my research progressed I used the term "food (in)secure" less and spoke more in terms of accessing food, such as asking questions like 'how do you get the foods you need and want?'. I found myself careful to inquire about food management strategies, such as food bank use, yet not imply the participant was food insecure because they used this strategy. Some of these women had experienced much harder financial times in their lives when they were quite familiar with the feeling of hunger; however, because they weren't going hungry now, they were content with their personal situation. Realizing this, it was not the purpose of this research to convince them otherwise, that they were food insecure, when they clearly felt that they were doing "just fine". Rather, in a non-judgemental way I would tell them about a food program I had heard about, or show them the information about the program in the Programs for Seniors Directory that was in all of their gift bags. I did my best not to impose my perception of their situation onto their personal reality.

Researchers have suggested that seniors are able to embrace hardships better than today's younger generation due to the impact of remembering the Great Depression or the World Wars (35, 36). Originally, for my second objective, I had intended to gather participant-identified enablers and barriers to food security. It became apparent as I began the data analysis process that the participants would not identify all structures at environmental levels further from their microsystem. All factors I perceived as a barrier to obtaining food security, they did not always consider or mention. For me, this meant

analyzing the transcripts with great detail to uncover structures, unbeknownst to the participant that was in fact a barrier to accessing food.

Patton recommends that as researchers we must appreciate there is no separate or objective reality for participants, there is only what they know their experience is and what their experience means (113). How the participant interprets the experience is their reality. This complements one of the key concepts of Bronfenbrenner's model where it is understood that the model is concerned with exploring the environment as perceived, versus the environment as it exists in objective reality (109). It is my attempt that providing quotes in Chapter 5 directly from the participants and then supplementing with my interpretation, enables the reader to recognize the experience from both the senior women's perspective, as well as from my perspective as researcher.

Earlier work by Wolfe and colleagues (69) revealed how food insecurity among seniors can progress in severity, often beginning with compromised diet quality; then anxiety and uncertainty about procuring food; next eating socially unacceptable meals or having to eat less; and then finally, accessing food banks or soup kitchens (69). Although this progression does not necessarily have to happen in this specific sequence, these four stages were often observed in this order. Wolfe's work implies seniors aren't seeking help until the problem is quite severe; in the meantime they are severely compromising their nutritional status and therefore health status. My research, considered in light of Wolfe's findings, suggests that food insecurity among lone senior women is going unnoticed; if they are not self-identifying a problem, they are unlikely to seek help.

Programs such as the VON's Frozen Favourites and FEED Nova Scoti conduct evaluations including the socio-economic and demographic characteristics of the clients

using their services. Evaluation reports and publications such as the Canadian Association of Food Banks' HungerCount help confirm which populations are more vulnerable to hunger and food insecurity and where government money should be invested to alleviate these social and public health problems. The finding that seniors may be experiencing various degrees of food insecurity before even considering reaching out to community programs suggests existing data of food insecurity in seniors are not comprehensive; existing indicators and measures do not capture the whole experience of how seniors experience food insecurity. It also suggests there is an obvious problem with charitable food assistance programs as the primary strategy to address income-related food insecurity because these programs are not accessed by all those in need, as noted that only three of the study participants utilized a food bank.

Findings from American research (19) proposing that seniors identify with food insecurity differently than the younger generations, and findings from this study that participants appear rather frugal, resourceful and content to use food management strategies that would be considered socially unacceptable according to the definition of food security suggest the need to create awareness amongst policy and program developers of how earlier life experiences and world view influence a senior's propensity to seek help accessing adequate amounts of nutritious food.

6.3. The Role of Health and the Health Care System

My findings, specifically on physical and mobility limitations, requiring specific foods for health, and the cost of medications, confirmed American findings that health and health problems do indeed play a large and significant role in seniors' experience of food insecurity (19). All of the women participating in this study had multiple health

problems, with the main contributor to food insecurity being physical and mobility limitations.

While my finding that health and health problems play a significant role in food (in)security amongst low income seniors is consistent with existing literature (69, 119), one would expect Canadian seniors to experience food insecurity differently than seniors living in the United States, partly due to Canada's universal health care system, and Nova Scotia's Pharmacare program for seniors. The influence the health system has on access to food was obvious in research with seniors and food insecurity in the United States where participants would share experiences of not being able to afford both medications and food (or either) (19, 32, 37, 69, 70). A woman participating in a qualitative food security study in North Carolina was asked if she ever had to choose between paying the bills or buying food. Her answer bluntly revealed how little choice she felt she had in the matter, "[If I don't have enough money,] I just do without …the bills must be paid" (37, p368); in her household food was purchased last with whatever money was left over.

Results from a national survey conducted on a random sample of American senior citizens in 2001 found that 29% of seniors had no prescription insurance coverage. Of the seniors who did have insurance, 89% of respondents had to share costs of prescriptions through co-payments and co-insurance (143). The average cost per prescription for seniors in the United States was $42.30 for the year 2000 (144). At the time of that study the average senior required 28.5 prescriptions per year, equating to an annual cost of $1205.55, or approximately $100/month; an amount three times greater than that which a Nova Scotia citizen receiving GIS paying the maximum annual co-payment would have to pay.

Nova Scotia Pharmacare statistics show that in 2003-2004 the average senior had 32 prescriptions filled, costing the Pharmacare program $1456 per senior in that fiscal period (8). Breaking this variable down by age and gender, men 65-74, 75-84, and 85 years and older had on average 27, 33 and 38 prescriptions filled annually, costing $1425, $1656 and $1530, respectively. Women of the same age groups had 29, 38 and 43 filled, costing $1334, $1579 and $1429, respectively. In Nova Scotia, no senior need absorb the full cost of their medications because of our compulsory drug insurance plan. Within the Pharmacare program there are caps set at how much they pay for each individual prescription and how much seniors pay overall per fiscal period (145). Recipients of the Guaranteed Income Supplement also do not have to pay the annual premium ($424) associated with the insurance plan. Because of this program none of the women in this study enrolled in Pharmacare had been forced to make a decision between buying medications or food since they had turned 65 years of age. Universal health care has a protective effect on the food security status of seniors.

6.4. Food Assistance Programs

Charity food assistance programs have become entrenched in our society as a response to hunger and food insecurity. Their presence is not contingent of a downward Canadian economy, but a shift in Canadian social policy, as noted in the persistent high rates of poverty, under funded social programs and stringent polices around income assistance that do not appear to have the client's interest in the forefront (126). Despite public pensions being adjusted on a regular basis (yearly for the CPP and quarterly for OAS) according to the cost of living based on the Consumer Price Index, findings here along with previous research (12) suggest that this social safety net is ineffective for a

growing number of seniors, particularly for women living alone in urban Nova Scotia. As noted earlier, in 2006 the percentage of Nova Scotian seniors visiting a food bank was the highest among all the provinces (92) and in 2007 the percentage of food bank users reporting a pension as their primary income source increased by over 40% since the previous year (91).

National surveys examining food bank usage amongst individuals who experience hunger (National Longitudinal Survey of Children and Youth) and food insecurity (National Population Health Survey) significantly underestimate the prevalence of household food insecurity in Canada (126). Food bank use is also not a sensitive marker of food insecurity (i.e. not all those who are hungry access food banks). The National Longitudinal Survey of Children and Youth, a survey reaching 22 000 Canadians in 1996, found only one third of those who reported experiencing hunger actually sought food bank support (90). While data on food bank use from the Canadian Association of Food Banks' HungerCount provide a valuable indicator of severe food insecurity, these data underreport the severity of the hunger and food insecurity problem in Canada. Seven of the eight women interviewed in this study undertook various coping strategies to increase their access to food; however, only three women study accessed a food bank.

In the United States, food assistance programs are not solely based on the charity model. There is a federally funded Food Stamp Program run by the United States Department of Agriculture Food and Nutrition Service (USDA FNS) (146). Eight percent of the 26 million individuals who access the Food Stamp program are above the age of 60 years. The average monthly benefit allotted to all participants was approximately $86 per person and $200 per household. The amount received depends on

the number of people in the household and their financial situation. Also run by the USDA FNS is a Seniors' Farmers' Market Nutrition Program (SFMNP) which operates throughout the harvest season. The SFMNP awards grants to States to provide low-income seniors with coupons that can be exchanged for eligible foods at farmers' markets, roadside stands, and community supported agriculture programs. The American government has invested $15 million in funding for the 2007 fiscal year.

Canada and the United States govern differently and have different health and social systems, thus I am not suggesting that because a program exists in one country it should be implemented by its neighbour. However, the lack of Canadian government resources allocated to ensure older members of society have access to nutritious food is unfortunate. There are moral, ethical and social dimensions surrounding the issue of food insecurity (29). The proliferation of community-based food charities and the entrenchment of food banks and soup kitchens as a "solution" to the problem has been cited as a "damning indictment of current directions in Canadian social policy" (29, p 12). If food is considered to be a basic human right, as stated in Priority One in Canada's Action Plan for Food Security (5), the fact that the women in this study are experiencing food insecurity in Nova Scotia begs to question how the government values its citizens.

6.5. Subsidized Housing Offers Protection

The Canadian Mortgage and Housing Corporation reports over 56% of senior women living alone in a rental accommodation in Canada are in core housing need (94). Core housing need refers to households which pay more than 30% of household income to afford shelter that meets adequacy, suitability, and affordability norms. Unattached senior women represent the population with the highest incidence of housing need (94).

Senior women who rent and live alone account for only 10.2% of all renting households but represent 19.1% of all renting households unable to find acceptable housing (94).

In Nova Scotia, almost one half of all senior women living by themselves live below the LICO (8), meaning they devote 20% or more of their income on shelter, food and clothing than the average single Canadian household living in a similar-sized community (147). Seven of the eight women participating in this study paid subsidized rent based on 30% of their gross income. The revised affordability scenarios (Section 5.5.3) show that living in an income-geared apartment is protective against having inadequate monies to purchase a nutritious food basket and still have funds left over to purchase other expenses needed for daily living (e.g. toiletries, cleaners, etc.).

Irma, who paid market rent, spent $600 each month on rent, while no amount greater than $460/month was reported from the other seven women living in subsidized housing. Irma accessed a food bank on a weekly basis, and although two other women living in a rent-subsidized apartment also used food bank services, they did so less frequently. Joan and Martha reported that they only needed to access a food bank every two months or so.

There are 2265 units allocated to the Seniors' Housing Rental Program throughout HRM; this means subsidized housing is available to approximately 5.4% of the senior population in this area. Assuming provincial poverty statistics (15% of seniors living below the Low Income Cut Offs) are representative of the HRM, this means almost an additional 10% of seniors living in HRM would benefit from Seniors' Housing Rental Program so they would not have to spend a disproportioned amount of their income on rent. The Atlantic Seniors Housing Research Alliance recently released findings from the

Seniors' Housing and Support Services Survey suggest that one in five respondents (total n = 1702) spent 40% or more of their income on their dwelling (148).

The most recent national nutrition survey found that being a property owner was a buffer against experiencing food insecurity; 20.5% of all Canadian households who didn't own their dwelling were food insecure versus 3.9% of those who did own their dwelling (7). This could be due to the costs associated with renting versus owning a home. The Seniors' Housing and Support Services Survey reported the average rental/co-op fee for participants was $694/month, while the average homeowner's mortgage payment was $170/month (although yearly maintenance expenses and property taxes added an extra $311/month) (148). The women in this study all rented and despite the fact that seven of the eight women lived in income-geared housing these women still used coping strategies that suggest they experienced income-related food insecurity.

Bronfenbrenner's' Ecological Systems Theory stresses the importance of settings and structure in an ecological system (109). I emphasized earlier (Section 3.4) that I recognize the importance of settings and structures in my research by ensuring all participants were from a similar setting (urban Halifax Regional Municipality) and lived alone. However, a major structural difference not accounted for in my eligibility criteria was not having all participants from either income-geared or market rent housing. The revised affordability scenario found in Table 9 (Section 5.5.3) shows the protective effect of living in subsidized housing. Thus it is possible that this structural difference might affect the experiences of income-related food insecurity in seniors and that my findings may not reflect those seniors paying market rent and who are financially worse off. I acknowledge later (Section 7.3) that an area for future research would be to compare the

experiences of accessing food between seniors living in subsidized housing to those paying market rent.

6.6. Critical Reflection

As I reflect on my personal experiences throughout conducting this research, so easily do the memories of feeling overwhelmed come to mind. Three years in the making, I have experienced many obstacles to completing this research. I always knew I wanted to examine food insecurity in the senior population but it took me two years to really know what questions I wanted to ask. This was a large problem as the question often determines what the appropriate theoretical and methodological approaches will be. The final research question and objectives are the result of four slightly different questions and four completely different theoretical frameworks. Even now, if I were to do this over again, although I see value in addressing each of my three research objectives, I suspect I took on a bit too much. Perhaps more detail on just one objective may have been more manageable.

Once data collection was scheduled to begin, another obstacle appeared; some of the key organizations I was counting on to recruit participants via did not come through. A few organizations I volunteered with, or specifically met with key staff people to discuss my thesis with, did not materialize into recruiting any study participants. This was a significant set back for me as one and a half months into my data collection period I had to initiate meetings with other organizations I had limited contact with, establish rapport, and then recruit via these new avenues.

Meeting with women interested in being involved was truly a rewarding experience; offsetting any hardships I experienced completing this work. I interviewed

10 women (although only eight transcripts informed the results) and immediately became aware of the importance of establishing boundaries. In particular, I grew quite fond of the five that agreed to be involved in member checking as I had the most interaction with these women. I looked forward to baking something, bringing tea, and having another nice visit (or two or three) with them.

An interesting possibility my supervisor discussed with me after the interviews were conducted and analyzed, was perhaps this warm rapport I established with most of the participants affected what they told me and how they chose to respond to my questions. I am generally an optimistic individual; I look for the positive in situations and this is reflected in my personality and speech. Did my positive personality affect how the women participants responded or reflected on their current situation? Did it inflict a level of 'social desirability bias' on their part in that sensing I was a positive person they may not have wanted to upset me by revealing their less-positive view of their financial, food or health situations? This was an interesting discussion I had with my supervisor as I had never considered this possibility. I re-listened to parts of audio recordings of the interviews to try to get a sense if this may have happened. I did make a conscious effort (more noticeable as the interviews progressed) to talk less and listen more during the actual interviews, but I do know quite often the official interview did not start until 30 minutes or so after I met the women and we had "small talked" and I felt we were both feeling relatively safe and comfortable. I personally feel because a good rapport was established prior to the interviews the women would have been more likely to be honest with me. To test this hypothesis, the same women could be interviewed again using a more structured interview guide with set response categories, specifically

inquiring about enablers and barriers to accessing food, and affordability scenarios monthly income and expenses. Such a guide could now be created for this subset of the senior population using findings from my thesis.

With one participant in particular (Dorothy) I faced a personal dilemma. After the interview and member checking process was complete, I had a mild feeling of obligation to continue to visit Dorothy, I was unsure how to 'let go'. Between the first interview and member checking visit Dorothy broke her leg and was in the hospital for two weeks. I went to visit her there once, because I wanted to, and also because she had no family in the area to keep her company. Once out of the hospital she would call, about once a week asking when I would visit again. I discussed these boundary concerns with a fellow grad student, we both agreed we didn't want to just use these seniors to "get" our data, but was it okay to start a friendship? Her neediness set off "red flags", yet also made me want to continue visiting her because she was obviously lonely. After discussion with my fellow grad student and two of my committee members, I began to ensure the visits were happening on my terms, for example at a time I set when it was convenient for me. These times were when I had meetings/interviews at the seniors' manor she lived in.

This seemed to be working until one night she left a message asking me to call her back, there was something she wanted me to do for her. It sounded urgent and I was concerned. I phoned her back to find out she wanted me to come over the next day to cut her toenails. I said no, and explained that I wasn't comfortable doing that, and she should let her case worker know she needed help with personal care. Dorothy got rather upset as I tried to explain this to her; however, in the end she accepted my answer that I was not a nurse and therefore not qualified to be cutting her toenails.

This experience made me aware to establish my role as a student researcher. I have to respect my personal time limitations that I can not visit all participants once data collection is over, while ensuring they feel their contribution to the study was valued. For all participants I met with after Dorothy I went through the Programs for Seniors directory to let them know about community resources and welcomed calls only if they had any questions about the study in particular.

7. CONCLUSIONS & IMPLICATIONS

7.1. Conclusion

This is the first qualitative study to specifically examine food insecurity in Canadian seniors. The purpose of this study was to uncover the experiences of lower income senior women living alone in urban Halifax Regional Municipality (HRM) with accessing the nutritious foods they need and want. The eight women involved in this study were all over 65 years of age, lived alone in HRM and in receipt of the Guaranteed Income Supplement, a public pension available to lower income seniors. Seven of the women lived in income-geared housing while one woman paid market rent. This research specifically focused on senior women living alone, as previous research suggests this population is at increase risk for food insecurity compared to men and seniors living with partners (12, 23).

Findings from this study concur with American studies on seniors and food security (19, 35, 70) that finances can be a significant barrier to accessing nutritious food. The role of income on food security in non-senior populations has been well established in the literature (1, 9, 13, 105, 108, 149, 150). The third research objective, discussed in Section 5.5, critiques the only (soon to be) published Canadian study on seniors and food security (12) which examines the adequacy of incomes sources from public pensions to afford a nutritious diet. Similar methods applying food costing data to affordability scenarios to examine the adequacy of social assistance in Ontario (25) and minimum wage in Nova Scotia (13) have been published for non-senior households and are also found in respected grey literature from dietitians and researchers in provinces across the country (107). Findings from this thesis suggest applying food costing data to

affordability scenarios is an appropriate approach to assess the affordability of a nutritious diet among seniors; however, expenses considered basic for non-senior households (12, 13, 25) do not capture all the expenses participants in this study found essential. Specifically spending on health care services (e.g. drug insurance plans, telehealth services) were considered essential to participants in this study.

Recommendation #1
When applying food costing data to assess the adequacy of income sources available to seniors to purchase a nutritious diet, health-related expenses (e.g. drug insurance plans) are considered essential for seniors and must be included in the comparison of monthly income to basic monthly expenses.

This study also contributes to the body of literature on seniors and food security by identifying many other non-monetary contributing factors to how seniors experience food (in)security. Consistent with previous work by Wolfe et al. (19), seniors' have a unique world view which significantly alters how they perceive their food security situation compared to younger generations. Obvious coping strategies were reported by the study participants to ensure they did not go hungry, such as, "stretching" meals, stockpiling non-perishables, eating poor quality (old) produce, buying food on credit and accessing food banks. Interestingly, however, none of the women perceived themselves to be food insecure. Older individuals use a generational lens to view their current situation through, which can create a bifurcation between their actual versus perceived situation.

This study revealed multiple enablers and barriers to accessing food at various levels of the seniors' environment, again confirming adequate income is not the sole determinant of achieving food security. Further, findings suggests that current food

security monitoring systems (e.g. Canadian Community Health Surveys and the National Nutritious Food Basket) may not accurately capture the risk of food insecurity in seniors as these monitoring systems are based on income-related food insecurity only.

Recommendation #2
Tools used to capture the prevalence of food insecurity (e.g. CCHS) or used to examine the affordability of a nutritious diet (e.g. NNFB) currently only use *income* security as an indicator for *food* security.

Other indicators (e.g. health status, social inclusion, availability of affordable and accessible housing and transportation, etc.) are important influencers on seniors' ability to achieve food security and therefore measurement tools which incorporate these factors should be developed and validated.

Food insecurity comes with a high price tag. In 1998, the economic burden of poor diet in Canada was estimated to be $6.6 billion (includes direct and indirect costs) (151). In Nova Scotia, lower income groups report higher rates of cardiovascular disease and cancer (27). Cardiovascular disease costs Nova Scotia over $950 million each year in direct and indirect costs; cancers add another $580 million to the provincial health bill (27). Good nutrition, such as following Canada's Food Guide, can reduce the risk of obesity, type 2 diabetes, heart disease, some types of cancer, and osteoporosis (28). If seniors cannot afford nutritious food (12), or cannot access the food they need and want, they are unfortunately at high risk for malnutrition and poor health and are therefore placing further stress on our universal health care system. Nutritional risk has been identified as the single best predictor of physician and emergency room visits, hospitalization, and hospital readmission, which are the three most expensive features of Canada's health care services (33).

Recommendations #3 & 4
Recognizing the importance of healthy eating, government should play a significant role in ensuring nutritious food is accessible to all Canadians. This includes:

- Adjusting public pensions and specifically the Guaranteed Income Supplement to enable seniors to afford all basic necessities, including a nutritious diet. Affordability Scenarios suggest seniors living in market rental housing have very little funds remaining to cover all other monthly expenses.
- Allocating adequate funding to community programs that provide nutritious food to seniors (e.g. Meals on Wheels, etc.) to better protect those seniors from malnutrition who are unable to cook or travel due to health/mobility limitations and those with unavailable personal social supports.

Findings from this study suggest a number of implications for dietetic practice, public policy and future research on the topic of food insecurity in seniors. These three categories will be discussed below.

7.2. Implications for Practice

In the past, dietitians have had difficulty seeing where their role is in improving the food security of Canadian individuals and households; this is because reducing the prevalence of food insecurity is closely linked with reducing the prevalence of poverty (1). Health professionals, including dietitians, feel ill-equipped to tackle such a large social issue (1). However, upon reviewing the various enablers and barriers affecting seniors' access to food (Table 8), there are many areas in which dietitians can advocate for and influence policy and programs to better meet seniors' ability to access food.

Recommendation #5
Dietitians should become more active in advocating for programs, services and policies that improve seniors' food security status. For example:

- Help develop collective kitchens and congregate dining programs to increase socialization, increase motivation to cook and eat, and provide nutrient-dense meals.
- Seek funding to offer a transportation service in conjunction with the above mentioned programs.
- Conduct program evaluations, including number of users and demographics, to help demonstrate to funders the need for nutrition programs targeted to seniors.
- Working with seniors' manors, or the Department of Community Services' Senior Rental Housing Program, assess the interest of local farmers or community garden groups to establish a regular mobile farmers' market at seniors' manors.
- Be involved in food costing research; use findings from food costing research to justify the need for food-based programs targeted to seniors, especially those on fixed incomes.

During the recruitment phase for this study, the Social Committee of one manor shared with me how they had established an agreement with a local farmer to come every Thursday for one hour in the morning for a certain number of weeks during harvest season. Partnerships such as this can significantly increase seniors' physical access to fresh produce; especially since a good number of women participants only went grocery shopping once a month.

Involvement in research such as food costing studies can help assess the (in)adequacy of senior-geared income sources to purchase a nutrition diet. Findings can be presented to the appropriate levels of government to advocate for adequate pensions, affordable housing, accessible transportation, etc. so the food budget does not need to be compromised on a monthly basis. Section 7.3 provides other suggestions for research in the area of seniors and food security.

At the individual counselling level when dietitians are working with seniors, whether in the community or in the hospital, they should collect a social history and provide dietary advice that is income-sensitive. Recommending practical tips for cooking for one, being knowledgeable of the community programs that offer meal services and supports to seniors, and providing shopping tips to help conserve money (e.g. unit pricing) would be useful tips for any senior, especially those with limited financial resources.

7.3. Implications for Policy

As stressed in Health Canada's Income-Related Household Food Security in Canada report (7), food insecure households in Canada are not homogenous and therefore multiple actions are required to effectively prevent this issue. Health Canada suggests macro-level approaches, such as national, provincial and municipal level polices, aimed at improving access to affordable housing and adequate financial support have the potential to profoundly influence key determinants of income-related food security.

Specific implications around three different policy areas stemming from this research are as follows.

7.3.1. Public Pensions

All women in this study reported receiving more than $1000/month, although some only slightly more. In order to be living above Canada's unofficial poverty line (the Low Income Cut Offs) these women would need to receive at least $1521.67/month, before taxes. Seven of the eight women interviewed undertook blatant food management strategies to attempt to maintain adequate food stores in their house. Accessing a food

bank, "stretching" meals, eating poor quality (old) produce and buying on credit are signs these women do not have adequate finances to purchase a nutritious diet.

Changes to Canada's two public retirement income programs, Canada Pension Plan and the Old Age Security program, would be a significant approach to alleviating poverty and income-related food insecurity amongst seniors. Findings from this study support recommendations proposed by the National Advisory Council on Aging which has also examined the economic vulnerability of seniors (23).

Recommendation # 6
In agreement with recommendations put forward by the National Advisory Council on Aging {{801 National Advisory Council on Aging 2005; }}, this study recommends the federal government continue to:

- Update CPP and OAS programs by increasing benefit amounts to meet the needs of seniors' monthly basic necessities, simplifying application procedures, and administering retroactive benefits to seniors eligible for a benefit but failed to apply by the required time cut off.

7.3.2. Housing

Affordable and accessible housing is necessary to help seniors achieve food security. Housing costs absorb the "lion's share" of seniors' monthly pensions; this was found to be true in the current study, as well in our previous food costing study (12), and in Canadian Mortgage and Housing Corporation research on core housing need amongst single parents and seniors (94).

Finding and maintaining housing on limited income can be a major challenge for seniors. Currently 4% of seniors in NS access the provincial government's Seniors Rental Housing program (8); however, Statistics Canada reports 15% of all seniors in Nova Scotia are living below the *after-tax* Low Income Cut Off (8). The findings from this study show that subsidized housing protects seniors from income-related food

insecurity, complimenting LICO statistics which clearly suggest that more seniors would benefit from subsidized housing. This is also consistent with the stories from a couple of the women interviewed in this study who spoke of excessively long wait lists for getting an apartment in a seniors' manor in HRM.

Adequate finances and adequately funded community-based social and health care supports could help seniors age with dignity in their own homes. "Aging in place" refers to a senior's ability to grow old in his or her own home, it promotes self-sufficiency, encourages relationships between family, friends and neighbourhoods, and reduces the need for professional support; all enhancing seniors' quality of life, personal control and dignity (81).

Recommendation # 7
Nova Scotia Department of Community Services should re-examine the number of subsidized housing units available in the province to ensure they reflect the level of need among community dwelling seniors so no senior is forced to live in core housing need.

7.3.3. Transportation

None of the women in this study owned their own car. They all relied on public transportation, taxi services, community transportation programs, family and friends to get where they needed to go. Previous research suggest monthly transportation costs constitute the second largest expense for seniors, next to rent (12).

Public transportation services (i.e. city buses) are considerably less expensive than private transportation services. In this study, Elsie described how she enjoyed the freedom taking the bus gave her as she didn't have to rely on her family when she wanted to go grocery shopping; however, six of the women reported health problems (mobility issues) inhibiting their ability take advantage of this lower cost mode of transportation.

For the two seniors in this study who had experiences with HRM's Access-a-Bus, unfortunately city policies regarding bus advanced scheduling and pre-defined routes were major barriers to accessing this service.

All seniors, regardless of mobility status or socio-economic status, need access to affordable transportation. Adequate transportation services doesn't just positively affect the food security status of the individual senior, it affects their quality of life and ability to fully participate in society. Currently, seniors carry out the majority of volunteer work that happens in Canada; seniors contribute the highest average number of volunteer hours (245hours/year) compared to any other age group (152). Provincial and Municipal governments need to improve public accessible transit services for seniors so they can access the nutritious foods they need and fully participant in society.

The Dial-a-Ride Nova Scotia network provided 90 000 rides in the 2004-2005 fiscal period, a staggering 94% increase in usership since 2001 (81). This rising statistic further solidifies the need for more transportation options for seniors unable to drive or use public transportation.

Recommendations # 8
Provincial and Municipal governments should:

- Increase the number of accessible buses and re-examine scheduling and routes of accessible buses to meet the needs of HRM residents.
- Ensure all buses are more accessible by installing low access ramps.
- Require mandatory age-sensitivity training for drivers and better publicize to users how to report complaints/concerns.
- Increase funding to community organizations that offer transportation services to the elderly.

7.4. Implications for Future Research

It must be emphasized that the current research focused only on a small sub-population of seniors: lower income senior women living alone in urban Nova Scotia, with seven of the eight women living in subsidized housing; therefore, it would be prudent to work with other senior groups to assess if these findings apply to other senior populations and build on this work.

Also, when applying findings, previous research (107, 153, 154) suggests that using a participatory approach to develop and reform policy and programs that will effectively address food security in seniors is paramount. Social inclusion is a fundamental concept; food security cannot be built without consideration for and inclusion of those impacted by food insecurity. American research has shown some seniors appear hesitant to receive 'hand-outs' (37); therefore, allowing their input into policy and program development is crucial for the strategy to achieve its intended outcomes. Also, documenting this participatory approach would also add to the literature about participatory action research and capacity building in older populations.

Conducting the literature review and analysis for this research stimulated many other research questions. Listed below are four areas related to seniors and food insecurity that were of greatest interest to me and that I think would make a valuable contribution to the literature.

7.4.1. Widowhood's effect on food consumption

Widowhood tends to diminish "nutritional-self management" strategies, leading to negative changes in dietary behaviour and food intakes (124). Although research suggests these negative changes are more evident in men (124), some women in the

current study would benefit nutritionally from having a partner dine with them, as cooking for just one was little motivation for them to prepare a nutritiously adequate meal. Conversely, research with community-dwelling elderly women in rural Nova Scotia noted some widowed women experience a "lifting food obligations as wife" phenomenon (130), which was also observed in this study. This phenomenon involves a type of emancipation where widows were now able to prepare the foods they liked and eat when they were hungry, instead of catering to their husband's desires and timeline. Uncovering any positive and/or adverse effects of widowhood on dietary patterns could assist with effective senior-targeted programming.

7.4.2. Subsidized vs. Non-subsidized Housing

Collecting and analyzing perceptions and experiences of food security in seniors living in subsidized vs. non-subsidized housing would be of great value. This study had an imbalanced number of participants who benefited from income-geared rent. The findings suggest that interpretations of financial and food security status may differ when a larger proportion of one's pension is allocated to the shelter budget. Also, a more specific quantitative study on resource allocation, and the flexibility of the food budget in subsidized vs. non-subsidized senior households would be of benefit to advocate for appropriate numbers of income-geared apartments in Nova Scotia.

7.4.3. Senior Immigrants

The most recent national food security statistics, collected in 2004, report almost 15% of recent immigrant households experienced some form of food insecurity, compared to only 9% of non-immigrant households; these figures are not specific to senior households (7). In order to qualify for a pension in Canada a senior must be a

Canadian citizen or a legal resident, and the amount s/he receives depends on how long s/he has lived in the country (71). The Old Age Security program has a 10 year residency requirement, and in order to qualify for the full OAS pension an individual has to have lived in Canada for at least 40 years after the age of 18 (53, 71).

These criteria omit recent immigrants from being eligible to receive the social and health benefits Canadian seniors receive. Specifically in Nova Scotia, all GIS recipients are automatically eligible for the provincial Pharmacare Program and are not required to pay the annual premium. No access to public pensions or drug insurance coverage would further reduce the amount of money available to purchase a nutritious diet. It would be interesting to learn if immigrant seniors put different types of food management strategies into place than non-immigrant seniors, and also to compare enablers and barriers to accessing food for these two populations.

7.4.4. Religion's role in food security perception

Although not overly apparent in this study, the role that religion plays in seniors' interpretation of food insecurity has been documented elsewhere (37). Faith in God to help seniors through tough times, or reliance on church communities for social support and charity may alter seniors' perception of their food security status. Religious values fall under world view (19) which has a larger role in how seniors experience food security compared to younger generations. Specifically asking seniors how their faith/religion influences whether they worry about money or food and comparing answers to younger generations might reveal some interesting differences. Also, the role the church plays in community support (i.e. pastoral visits, within church meals on wheels

programs, etc.) might affect seniors' social/isolation status and therefore nutritional intake.

7.5. Macrosystem Review: Putting Recommendations into Action

In order for the above eight recommendations to be put into place, and funding for the four areas of future research to be secured, I acknowledge that some systemic changes will need to take place. Everyone ages. Everyone will access the health care system. Almost everyone will eventually benefit from the Old Age Security program. Canadians, and particularly our political leaders, must have the vision to put into place healthy public policy and programs that will enable Canadians to age with dignity and quality of life.

In 2007, the Nova Scotia provincial government restructured the Seniors' Secretariat, the provincial agency responsible for seniors, and established the Department of Seniors. This change solidified the political status of aging advocates, providing a more out front profile, more authority and a larger budget. All three are important for advancing policy and programs to benefit aging Nova Scotians, such as helping roll out the (formerly) Seniors' Secretariat's Strategy for Positive Aging in Nova Scotia (81). This forward thinking Strategy provides success stories and recommendations for nine positive aging goals, including maximizing independence, health and well-being housing options, transportation and financial security. Securing a provincial department dedicated to seniors and having a provincial positive aging strategy are two bright examples of macrosystem structures that have great potential to increases seniors' ability to access nutritious food.

References

1. Power E. Individual and household food insecurity in Canada: Position of Dietitians of Canada. Toronto, ON: Dietitians of Canada; 2005.

2. American Dietetic Association. Position of the American Dietetic Association: Food insecurity and hunger in the United States. J Am Diet Assoc. 2006;106:446-58.

3. Davis B, Tarasuk V. Hunger in Canada. Agric Human Values. 1994;11(4):50-7.

4. Nova Scotia population by county [homepage on the Internet]. 2004 November 23. Available from: http://www.gov.ns.ca/finance/statistics/agency/index.asp?p=1&s=1c.

5. Agriculture and Agri- Food Canada. Canada's action plan for food security. Author; 2003.

6. Fairholm J. Urban agriculture and food security initiatives in Canada: A survey of Canadian non-governmental organizations. Ottawa, ON: Life Cycles Project Society and International Development Research Centre; 1998. Report No.: 25.

7. Health Canada. Canadian Community Health Survey, Cycle 2.2, Nutrition (2004) - Income-related household food security in Canada. Ottawa, ON: Office of Nutrition Policy and Promotion; 2007. Report No.: 4696.

8. Nova Scotia Seniors' Secretariat. Seniors' statistical profile. Halifax, NS: Province of Nova Scotia; 2005.

9. Atlantic Health Promotion Research Centre, Family Resource Centres/Projects, Nova Scotia Nutrition Council. Participatory food security projects phase I and II report. Building food security in Nova Scotia: Using a participatory process to collect evidence and enhance the capacity of community groups to influence policy. Halifax, NS: Author; 2004.

10. McIntyre L, Glanville T. Do low-income lone mothers compromise their nutrition to feed their children? Can Med Assoc J. 2003;168(6):686-91.

11. McIntyre L, Glanville T, Officer S, Anderson B, Raine K, Dayle J. Food insecurity of low-income mothers and their children in Atlantic Canada. Can J Public Health. 2002;93(6):411-5.

12. Green RJ, Williams PL, Johnson CS, Blum I. Can Canadian seniors on public pensions afford a nutritious diet? Can J Aging. 2008, in press.

13. Williams PL, Johnson CP, Kratzmann MLV, Johnson CSJ, Anderson BJ, Chenhall C. Can households earning minimum wage in Nova Scotia afford a nutritious diet? Can J Public Health. 2006;97(6):430-4.

14. Daily D. A measure of hunger. Hum Ecol. 1996;24:4-7.

15. Travers KD, Cogdon A, McDonald W, Wright C, Anderson B, MacLean DR. Availability and cost of heart healthy dietary changes in Nova Scotia. J Can Diet Assoc. 1997;58(4):176-183.

16. Glanville NT, McIntyre L. Diet quality of Atlantic families headed by single mothers. Can J Diet Pract Res. 2006;67(1):28-35.

17. Atlantic Health Promotion Research Centre/Nova Scotia Nutrition Council. Building food security in Nova Scotia through participatory food costing: 2004/05 food costing update. Halifax, NS: Author; 2006.

18. Nova Scotia Nutrition Council. How do the poor afford to eat? Halifax, NS: NSNC; 1988.

19. Wolfe WS, Olson CM, Kendall A, Frongillo Jr. EA. Understanding food insecurity in the elderly: A conceptual framework. J Nutr Educ. 1996;28(2):92-100.

20. Rainville B, Brink S. Food insecurity in Canada, 1998-1999. Ottawa, ON: Human Resources Development Canada; 2001.

21. CCHS Cycle 1.1 Food insecurity survey questions [homepage on the Internet]. . 2003 December 18. Available from: http://www.statcan.ca/english/concepts/health/pdf/foodinsecurity.pdf.

22. Human Resources Development Canada. 1927-2002 public pensions: 75 years of helping Canadians. Hull, QC: Author; 2002.

23. National Advisory Council on Aging. Seniors on the margins. Aging in poverty in Canada. Ottawa, ON: Minister of Public Works and Government Services Canada; 2005.

24. McIntrye L, Tarasuk V. In: Food security as a determinant of health. The Social Determinants of Health Across the Life-span Conference. November 2002; Toronto, Ontario. 2002.

25. Vozoris N, Davis B, Tarasuk V. The affordability of a nutritious diet for households on welfare in Toronto. Can J Public Health. 2002;93(1):36-40.

26. Che J, Chen J. Food insecurity in Canadian households. Health Rep. 2001;12(4):11-22.

27. The cost of chronic disease in Nova Scotia.[homepage on the Internet]. 2002. Available from: http://www.gpiAtlantic.org/pdf/health/chronic.pdf.

28. Health Canada. Eating well with Canada's Food Guide. Resource. Ottawa, Ontario: Health Canada; 2007. Report No.: 4651.

29. Tarasuk V. Discussion paper on household and individual food insecurity. Ottawa, ON: Health Canada; 2001.

30. Radimer KL, Olson CM, Campbell CC. Development of indicators to assess hunger. J Nutr. 1990;120(S11):S1544-8.

31. Kendall A, Olson CM, Frongillo Jr EA. Validation of the Radimer/Cornell measures of hunger and food insecurity. J Nutr. 1995;125(11):2793-810.

32. Wolfe WS, Frongillo EA, Valois P. Understanding the experience of food insecurity by elders suggests ways to improve its measurement. J Nutr. 2003;133(9):2762-9.

33. The cost of chronic disease in Canada [homepage on the Internet]. The Chronic Disease Prevention Alliance of Canada. 2004. Available from: http://www.gpiAtlantic.org/pdf/health/chronicCanada.pdf.

34. National Advisory Council on Aging. Report card on seniors in Canada. Ottawa, ON: Author; 2001.

35. Nord M. Measuring the food security of elderly persons. Family Economics and Nutrition Review. 2003;15(1):33-46.

36. Vailas LI, Nitzke SA, Becker M, Gast J. Risk indicators for malnutrition are associated inversely with quality of life for participants in meal programs for older adults. J Am Diet Assoc. 1998;98(5):548-53.

37. Quandt SA, Arcury TA, McDonald J, Bell RA, Vitolins MZ. Meaning and management of food security among rural elders. J Appl Gerontol. 2001;20(3):356-76.

38. Vozoris N, Tarasuk V. Household food insufficiency is associated with poorer health . J Nutr. 2003 2003;133:120-6.

39. Frongillo Jr EA, Rauschenbach BS, Olson CM, Kendall A, Colmenares AG. Questionnaire-based measures are valid for the identification of rural households with hunger and food insecurity. J Nutr. 1997;127(5):699-705.

40. Rose D, Oliveira V. Nutrient intakes of individuals from food-insufficient households in the United States. Am J Public Health. 1997;87(12):1956-61.

41. Tarasuk V, Beaton G. Women's dietary intakes in the context of household food insecurity. J Nutr. 1999;129:672-9.

42. Tarasuk V. Household food insecurity with hunger is associated with women's food intakes, health and household circumstances. J Nutr. 2001;131(10):2670-6.

43. Health and Welfare Canada. Canada's Food Guide to Healthy Eating. Ottawa, ON: Author; 1992.

44. Dietary reference intakes [homepage on the Internet]. 2005. Available from: http://www.iom.edu/project.asp?id=4574.

45. American Society for Clinical Nutrition and American Institute of Nutrition Task Force on Trans Fatty Acids. Position paper on trans fatty acids. Am J Clin Nutr. 1996;63(5):663-70.

46. Ricciuto L, Ip H, Tarasuk V. The relationship between price, amounts of saturated and trans fats, and nutrient content claims on margarines and oils. Can J Diet Prac Res. 2005;66(4):252-5.

47. Liu S, Stampfer MJ, Hu FB, Giovannucci E, Rimm E, Manson JE, et al. Whole-grain consumption and risk of coronary heart disease: Results from the nurses' health study. Am J Clin Nutr. 1999;70(3):412-9.

48. Jensen MK, Koh-Banerjee P, Hu FB, Franz M, Sampson L, Gronbaek M, et al. Intakes of whole grains, bran, and germ and the risk of coronary heart disease in men. Am J Clin Nutr. 2004;80(6):1492-9.

49. Dauchet L, Amouyel P, Hercberg S, Dallongeville J. Fruit and vegetable consumption and risk of coronary heart disease: A meta-analysis of cohort studies. J Nutr. 2006;136(10):2588-93.

50. The Healthy Eating Action Group of the Nova Scotia Alliance for Healthy Eating and Physical Activity, in partnership with the Office of Health Promotion. Healthy Eating Nova Scotia. Halifax, Nova Scotia: Office of Health Promotion; March 2005.

51. Liebman B. Pressure cooker. the scoop on salt. Nutrition Action Healthletter. 2005;32(6):1-8.

52. He FJ, MacGregor GA. How far should salt intake be reduced? Hypertension. 2003;42(6):1093-9.

53. National Advisory Council on Aging. Seniors in Canada. 2006 Report Card. Ottawa, ON: Minister of Public Works and Government Services Canada; 2006.

54. Glade MJ. Food, nutrition, and the prevention of cancer: A global perspective. Nutrition. 1999;15(6):523-6.

55. Raine K. Overweight and obesity in Canada: A population health perspective. Ottawa, ON: Canadian Institute for Health Information; 2004.

56. What determines health?[homepage on the Internet]. . 2004 March 24. Available from: http://www.phac-aspc.gc.ca/ph-sp/phdd/determinants/determinants.html.

57. Weinreb L, Wehler C, Perloff J, Scott R, Hosmer D, Sagor L, et al. Hunger: Its impact on children's health and mental health. Pediatrics. 2002 Oct;110(4):e41.

58. Nova Scotia Department of Health. A first look at depression in Nova Scotia. Halifax, NS: Author; 2004. Report No.: 4.

59. Townsend MS, Peerson J, Love B, Achterberg C, Murphy SP. Food insecurity is positively related to overweight in women. J Nutr. 2001;131(6):1738-45.

60. Darmon N, Darmon M, Maillot M, Drewnowski A. A nutrient density standard for vegetables and fruits: Nutrients per calorie and nutrients per unit cost. J Am Diet Assoc. 2005;105(12):1881-7.

61. Drewnowski A, Popkin BM. The nutrition transition: New trends in the global diet. Nutr Rev. 1997 Feb;55(2):31-43.

62. Drewnowski A. Fat and sugar: An economic analysis. J Nutr. 2003;133(3):838S-40S.

63. Drewnowski A, Darmon N, Briend A. Replacing fats and sweets with vegetables and fruits – a question of cost. Am J Public Health. 2004;94(9):1555-9.

64. McIntyre L, Williams P, Glanville NT. Milk as metaphor: Low-income lone mothers' characterization of their challenges acquiring milk for their families. Ecol Food Nutr. 2007;46(3):263-79.

65. National Advisory Council on Aging. Interim report card. Seniors in Canada 2003. Ottawa: Minister of Government Works and Government Services Canada; 2003.

66. Population by sex and age group, by province and territory [homepage on the Internet]. 2007 November 29 2007. Available from: http://www40.statcan.ca/l01/cst01/demo31a.htm.

67. Nova Scotia Task Force on Aging. Discussion paper for positive aging in Nova Scotia. Halifax, Nova Scotia: Communications Nova Scotia; 2004.

68. Keller HH. Reliance on others for food-related activities of daily living. J Nutr Elder. 2005;25(1):43-59.

69. Wolfe WS, Olson CM, Kendall A, Frongillo Jr EA. Hunger and food insecurity in the elderly: It's nature and measurement. J Aging Health. 1998;10(3):327-50.

70. Quandt SA, Rao P. Hunger and food security among older adults in a rural community. Human Organization. 1999;58(1):28.

71. Human Resources Development Canada. Income security programs overview. Hull, QC: Author; 2001.

72. Human Resources Development Canada. Canada's retirement income system. Hull, QC: Author; 2001.

73. Statistics Canada. Canada's retirement income programs. A statistical overview (1990-2000). Ottawa, ON: Minister of Industry; 2003. Report No.: 74-507-XIE.

74. Old Age Security (OAS) pensions: Frequently asked questions [homepage on the Internet]. 2005. Available from: http://www.hrsdc.gc.ca/asp/gateway.asp?hr=/en/isp/pub/oas/oas.shtml&hs=ozs.

75. Guaranteed Income Supplement (GIS) [homepage on the Internet]. 2004. Available from: http://www.hrsdc.gc.ca/asp/gateway.asp?hr=/en/isp/pub/oas/gismain.shtml&hs=ozs.

76. Allowance program [homepage on the Internet]. . 2004. Available from: http://www.hrsdc.gc.ca/asp/gateway.asp?hr=/en/isp/pub/oas/allowance.shtml&hs=ozs.

77. Allowance for the survivor program [homepage on the Internet]. 2004. Available from: http://www.hrsdc.gc.ca/asp/gateway.asp?hr=/en/isp/pub/oas/allowsurv.shtml&hs=ozs.

78. Income security programs information card (rate card) [homepage on the Internet]. 2005 July. Available from: http://www.sdc.gc.ca/asp/gateway.asp?hr=/en/isp/statistics/julsep05.shtml&hs=ozs.

79. Income security programs information card. July - September 2007 [homepage on the Internet]. Service Canada. 2007 06/26/2007. Available from: http://www.hrsdc.gc.ca/en/isp/statistics/rates/pdf/julsep07.pdf.

80. General information about the Canada pension plan [homepage on the Internet]. 2005. Available from: http://www.hrsdc.gc.ca/asp/top.

81. Nova Scotia Seniors' Secretariat. Strategy for positive aging in Nova Scotia. Halifax, NS: Communications Nova Scotia; 2005.

82. Shillington R, Fair M. Final report: Community undertaking social policy (CUSP) project. Toronto, ON: Tristat Resources and St. Christopher House; 2001.

83. Standing Committee on Human Resources Development and the Status of Persons with Disabilities. The guaranteed income supplement: The duty to reach all (sixth report). Ottawa, ON: House of Commons; 2001.

84. Jacob Johnson CS. Psychosocial correlates of nutritional risk in older adults. Cdn J Diet Prac Res. 2005;66(2):95-7.

85. Chandra RK, Imbach A, Moore C, Skelton D, Woolcott D. Nutrition of the elderly. Can Med Assoc J. 1991;145(11):1475-87.

86. Canadian Community Health Survey Cycle 1.1.[homepage on the Internet]. 2004 10/30. Available from: http://www.statcan.ca/english/concepts/health/cchsinfo.htm.

87. Canadian Community Health Survey, Nutrition, 2004. Level of household food insecurity.[homepage on the Internet]. 2005 November 13. Available from: http://www.statcan.ca/english/research/82-620-MIE/2005001/tables.htm.

88. Lack of food security: Focussed literature review and research framework - august 2001 [homepage on the Internet]. Human Resources Development Canada. 2006 01/23/2006. Available from: http://www.hrsdc.gc.ca/en/cs/sp/sdc/pkrf/publications/research/2001-000187/page00.shtml.

89. Gollub EA, Weddle DO. Improvements in nutritional intake and quality of life among frail homebound older adults receiving home-delivered breakfast and lunch. J Am Diet Assoc. 2004;104(8):1227-35.

90. McIntyre L. Food security: More than A determinant of health. Policy Options. 2003 MarFS:46-51.

91. Canadian Association of Food Banks. HungerCount 2007. Toronto, ON: Author; 2007.

92. Tsering C. HungerCount 2006. Toronto, ON: Canadian Association of Food Banks; 2006.

93. Affordable housing [homepage on the Internet]. 2005. Available from: http://www.cmhc-schl.gc.ca/en/FAQs/faqs_003.cfm.

94. Incidence of core housing need remains high among single parents and seniors living alone in rental housing [homepage on the Internet]. Author. 2005. Available from: http://www.cmhc-schl.gc.ca/en/cahoob/hoaf2004/hoaf_006.cfm.

95. Housing and repairs [homepage on the Internet]. . 2005 01/10. Available from: http://www.gov.ns.ca/coms/housing/rental_housing_seniors.html.

96. Planning and Development Services. Homelessness in HRM: A portrait of streets and shelters. Halifax, NS: Halifax Regional Municipality; 2004.

97. Kalina L. Building food security in Canada. from hunger to sustainable food systems: A community guide. 2nd ed. Kamloops, BC: ; 2001.

98. Nova Scotia Nutrition Council, Atlantic Health Promotion Research Centre, Food Security Projects National Advisory Committee. A national environmental scan of strategies for influencing policy to build food security. Halifax, NS: AHPRC; 2004.

99. Atlantic Health Promotion Research Centre, Family Resource Centres and Projects, Nova Scotia Nutrition Council. Thought about food? A workbook on food security & influencing policy. Halifax, Nova Scotia: ; 2005.

100. Houghton J. The Dietitian's role in British Columbia's food security movement. Toronto, ON: Dietitians of Canada; 1998.

101. Toronto Food Policy Council. Reducing urban hunger in Ontario: Policy responses to support the transition from charity to local food security. Toronto, ON: Author; 1994. Report No.: 1.

102. Tarasuk V, Reynolds R. A qualitative study of community kitchens as a response to income related food insecurity. Can J Public Health. 1999;60(1):11-6.

103. Klesges LM, Pahor M, Shorr RI, Wan JY. Financial difficult in acquiring food among elderly disabled women: Results from the women's health and aging study. Am J Public Health. 2001 2001;91(1):68-75.

104. Contento I. The effectiveness of nutrition education and implications for nutrition education, policy, programs, and research: A review of research. J Nutr Educ. 1995;27(6):277-418.

105. Nathoo T, Shoveller J. Do healthy food baskets assess food security? Chronic Dis Can. 2003;24(2/3).

106. Lawn J. National Nutritious Food Basket, 1998. Ottawa, ON: Health Canada; 1998.

107. Food Costing Working Group of the Nova Scotia Participatory Food Security Projects. Working together for ongoing food costing & policy solutions to build food security: A proposed model of ongoing food costing in Nova Scotia. Report submitted to Nova Scotia health promotion on behalf of Atlantic Health Promotion Research Centre, collaborating family resource centres / projects in Nova Scotia, Nova Scotia nutrition council. Halifax, Nova Scotia: AHPRC; 2005.

108. Nova Scotia Participatory Food Security Projects. Working together to build food security in Nova Scotia: Participatory food costing 2004/05. Halifax, NS: Atlantic Health Promotion Research Centre; 2007.

109. Bronfenbrenner U. The ecology of human development. Experiments by nature and design. Cambridge, MA: Harvard University Press; 1979.

110. Atlantic Health Promotion Research Centre, Nova Scotia Nutrition Council, collaborating Family Resource Centres/Projects. Thought about food? Understanding the relationship between public policy and food security in Nova Scotia. Halifax, Nova Scotia: Author; 2006.

111. Bronfenbrenner U. Ecology of the family as a context for human development: Research perspectives. Dev Psychol. 1986;22(6):723-42.

112. Bronfenbrenner's ecological systems theory [homepage on the Internet]. National-Louis University: 2001 07/12/2001. Available from: http://pt3.nl.edu/paquetteryanwebquest.pdf.

113. Patton MQ. Qualitative evaluation and research methods. 2nd ed. Newbury Park, CA: Sage Publications Inc.; 1990.

114. Moustakas C. Phenomenology science and psychotherapy. Cape Breton, NS: University College of Cape Breton; 1988.

115. Titchen A, Hobson D. Phenomenology. In: Somekh B, Lewin C, editors. Research Methods in the Social Sciences. 1st ed. London, UK: Sage Publications Inc.; 2005. p. 121-30.

116. Keller HH, McKenzie JD. Nutritional risk in vulnerable community-living seniors. Can J Diet Prac Res. 2003;64(4):195--201.

117. Marshall C, Rossman GB. Designing qualitative research. 2nd ed. Thousand Oaks, California: SAGE; 1995.

118. Charmaz K. Grounded theory: Objectivist and constructivist methods. In: Denzin NK, Lincoln YS, editors. Handbook of qualitative research. Thousand Oaks, California: SAGE; 2000. p. 509-24.

119. Olson CM, Kendall A, Wolfe WS, Frongillo Jr. EA. Understanding the measurement of hunger and food insecurity in the elderly. Madison, Wisconsin: Institute for Research on Poverty; 1996. Report No.: 1088-96.

120. Radimer KL, Olson CM, Greene JC, Campbell CC, Habicht JP. Understanding hunger and developing indicators to asses it in women and children. J of Nutr Educ. 1992;24(1):36S-45S.

121. Ritchie J, Lewis J, editors. Qualitative research practice. A guide for social science students and researches. London, UK: SAGE; 2004.

122. Nova Scotia Pharmacare [homepage on the Internet]. 2006 03/17. Available from: http://www.gov.ns.ca/heal/pharmacare/seniors_pharmacare_faq.htm.

123. Guthrie JF, Lin BH. Overview of the diets of lower- and higher-income elderly and their food assistance options. J Nutr Educ Behav. 2002 Mar/Apr;34:S31.

124. Payette H, Shatenstein B. Determinants of healthy eating in community-dwelling elderly people. Can J Public Health. 2005;96(Supplement 3):S27-31.

125. Riches G. Hunger in Canada: Abandoning the right to food. In: Riches G, editor. First World Hunger: Food Security and Welfare Politics. New York: St. Martin's Press Inc; 1997. p. 46-77.

126. Tarasuk V. Household food insecurity in Canada. Top Clin Nutr. 2005;20(4):299-312.

127. Sahyoun NR. Nutrition education for the healthy elderly population: Isn't it time? J Nutr Educ Behav. 2002;34(Supplement 1):S42-7.

128. Member agencies [homepage on the Internet]. 2007. Available from: http://www.feednovascotia.com/aboutUs/memberAgencies.html.

129. Seniors rental housing [homepage on the Internet]. 2007 10/01/2007. Available from: http://www.gov.ns.ca/coms/housing/rental/SeniorsRentalHousing.html.

130. MacDonald C. Qualitative exploration of the factors that act as barriers and enablers to adequate nutrition in community dwelling elderly women in rural Nova Scotia. 2004. MScAHN Thesis, Mount Saint Vincent University; Halifax, NS.

131. Seniors Oral Health Collaboration. The oral health of seniors in Nova Scotia. policy scan and analysis: Synthesis report. Halifax, NS: Dalhousie University; 2006 2006.

132. McNally M, Lyons R. The silent epidemic of oral disease: Evaluating continuity of care and policies for the oral health care of seniors. Halifax, NS: Atlantic Health Promotion Research Centre; 2004.

133. Clovis J, Matthews D, Filiaggi M, McNally M. Report on the Nova Scotia seniors oral health assessment project (SOHAP). Halifax, NS: Dalhousie University; 2006.

134. Perterson PE. The world oral health report: Continuous improvement of oral health in the 21st century- the approach of the WHO global oral health programme. World Health Organization; 2003. Report No.: WHO/NMH/NPH/ORH/03.2.

135. Palmer CA, DePaola D. Nutrition as the foundation for general and oral health. In: Palmer C, editor. Diet and Nutrition in Oral Health. 2nd ed. Upper Saddle Rive, New Jersey: Pearson Education, Inc.; 2007. p. 1-13.

136. Tarasuk VS, MacLean H. The institutionalization of food banks in Canada: A public health concern. Can J Public Health. 1990;81:331-2.

137. Metro transit [homepage on the Internet]. 2005. Available from: http://www.halifax.ca/metrotransit/.

138. Residential tenancies [homepage on the Internet]. Government of Nova Scotia. 2007. Available from: http://www.gov.ns.ca/snsmr/consumer/resten.

139. Human Resources and Social Development Canada. Low income in Canada: 2000-2002: Using the market basket measure. Author; 2006 June 2006. Report No.: SP-628-05-06E.

140. GST/HST credit online calculator [homepage on the Internet]. 2007. Available from: http://www.cra-arc.gc.ca/benefits/calculator/menu-e.html.

141. Products [homepage on the Internet]. 2007 no date. Available from: http://productsandservice.aliant.net/PS/ns/english/productsandservices/ps.jsp.

142. Consumer price index, food, by province (Nova Scotia) [homepage on the Internet]. 2007 06/21/2007. Available from: http://www40.statcan.ca/l01/cst01/econ156d.htm.

143. Schommer JC, Mott DA, Hansen RA, Cline RR. Selected characteristics of senior citizens prescription drug payment and procurement in 1998 and 2001. J Manag Care Pharm. 2003;9(5):408-15.

144. Fiscal Policy Institute. Impossible choices: Food and housing or prescription drugs? USAction; 2000.

145. Department of Health. Seniors' Pharmacare program information booklet. Halifax, NS: Author; 2007.

146. Food stamp program [homepage on the Internet]. 2007 11/19. Available from: http://www.fns.usda.gov/fsp/.

147. Poverty lines [homepage on the Internet]. 2005 May 5. Available from: http://www.ccsd.ca/factsheets/fs_lico04_bt.htm.

148. Shriner D. Highlights of the Atlantic seniors' housing and services survey report. Halifax, NS: Atlantic Seniors Housing Research Alliance; 2007.

149. Vozoris, N., Davis, B.,Tarasuk, V. The affordability of a nutritious diet for households on welfare in Toronto. Can J Public Health. 2002 Jan/Feb 2002;93(1):36-40.

150. Antonishak D, Bennewith E, Lutz H, Macdonald J, Raja S, Sheppard F. The cost of eating in B.C. Dietitians of Canada and Community Nutritionists Council of B.C.; 2004.

151. Health Canada. Economic burden of illness in Canada, 1998; custom tabulations, 2003. Ottawa, ON: Economic Research Analysis Section, Policy Research Division, Strategic Policy Directorate, Population and Public Health Branch, Health Canada; 2003.

152. Hall M, Lasby D, Gumulka G, Tryon C. Caring Canadians, involved Canadians: Highlights from the 2004 Canada survey of giving, volunteering and participating. Ottawa: Statistics Canada; 2006 June 2006.

153. Johnson C, Williams P. The value of participatory food costing: Views of the participants and support people, post spring 2002 food costing. 2005 September 2005.

154. McCullum C, Pelletier D, Barr D, Wilkins J. Use of a participatory planning process as a way to build community food security. J Am Diet Assoc. 2002 Jul;102(7):962-7.

APPENDICES

Appendix A. Cover Letter to Organizations

Appendix B. Informed Consent Form

Appendix C. Affordability Scenarios

Appendix D. Recruitment Poster

Appendix E. Interview Guide

Appendix A. Cover Letter to Organizations

[MSVU Letterhead]

May, 2007

Hello!

My name is Becca Green. I am a graduate student in the Applied Human Nutrition Department of Mount Saint Vincent University in Halifax. I am writing in hopes of generating excitement and support for my thesis research which focuses on seniors and food insecurity.

Food insecurity means people can not afford, or get access to, sufficient nutritious, personally acceptable food. They may have to rely on food banks, or have to skip meals. Maybe they can no longer drive to the grocery store, or can't afford the food they need for a special health condition. Food insecurity also includes uncertainty or anxiety about where their next meal may come from.

I'm sending this package to you in case any of your clients or people you know through the organization you're involved with might be interested in being interviewed as part of my thesis research.

Previous research I've conducted with my thesis supervisor examined if Canada's public pensions (Canada Pension Plan and Old Age Security) provided adequate income for seniors in Nova Scotia to afford a basic nutritious diet. "Affordability scenarios" were created where monthly incomes were compared to essential monthly expenses for various household scenarios. Results suggest that single-member households relying on public pensions may lack necessary funds for a basic nutritious diet. National statistics show that female seniors are more likely to be living in poverty than male seniors. For these two reasons I would like to interview low income senior women living alone in HRM to hear their stories of how (or if) they get the food they need and want. I'm interested in finding out the barriers and enablers they face in achieving food security.

Enclosed please find:

- a sample Informed Consent form that interview participants will be asked to read and sign;
- a copy of the Affordability Scenarios from my previous research and;
- a sample Recruitment Poster if you so desire to post in your facility.

The ethical component of my thesis has been approved by the Mount Saint Vincent University Ethics Review Board.

I will be contacting you soon to gage interest in my thesis work. Also, please phone or email me (contact information below) to discuss any questions or concerns you may have. Thank you so much for your time and consideration.

Sincerely,

Rebecca J. Green
Graduate Student Researcher
Department of Applied Human Nutrition
Mount Saint Vincent University
rebecca.green@msvu.ca
[redacted]

Dr. Patty Williams
Thesis Supervisor
Department of Applied Human Nutrition
Mount Saint Vincent University
patty.williams@msvu.ca
(902) 457- 6394

Thesis Committee Members:
Dr. Theresa Glanville (MSVU Applied Human Nutrition Department)
Dr. Deborah Norris (MSVU Family Studies & Gerontology Department)
Ms Cathy Crouse (MSVU Family Studies & Gerontology Department; Metro Community Housing Association, and former Executive Director Nova Scotia Centre on Aging)

Appendix B. Informed Consent Form

[MSVU Letterhead]

STUDY TITLE: Accessing Nutritious Food: The Realities of Lone Senior Women in Urban Nova Scotia

RESEARCHER: My name is Rebecca Green. I am a Master student in the Department of Applied Human Nutrition at Mount Saint Vincent University. As part of my master thesis, I am doing research under the guidance of Dr. Patty Williams.

INVITATION: I invite you to participate in my study, *Accessing Nutritious Food: The Realities of Lone Senior Women in Urban Nova Scotia*. The purpose of the study is to explore how lone senior women in urban Halifax Regional Municipality get the foods they need and want.

I would like to interview you to talk about your experience as a senior living on your own and the factors that affect your ability to eat enough healthy food. The interview will take 1.5 - 2 hours and can be held in your home or in a public space (e.g. a local community centre), whichever you prefer. The interview will be audio taped if you agree.

YOU CAN TAKE PART IN THIS STUDY IF:

- You are female
- You are 65 years of age or older
- Live by yourself
- Live in HRM (Halifax Regional Municipality)
- Receive a Guaranteed Income Supplement cheque each month

POTENTIAL BENEFITS AND RISKS: Sharing your experiences will help us understand how seniors get the food they need. We want to use the information to give recommendations to organizations and governments so that healthy foods can be more accessible for seniors.

Some of the issues that may arise during the interview could be sensitive or embarrassing. You may choose not to discuss any topic that makes you uncomfortable. Your participation is voluntary. You may withdraw from this study at any time.

COMPENSATION: As a small token of appreciation for your time, you will receive a gift/fruit basket.

CONFIDENTIALITY: All material (informed consent forms, audiotapes, interview transcripts and notes) will be kept in a locked room, accessible only to the student researcher and her supervisor. Your name will not be on any public documents. All electronic files will be password protected.

During the course of the interview, if it becomes apparent to the researcher that a violation of the Criminal Code has occurred, she will be obligated to report the violation to the appropriate authorities.

According to Mount Saint Vincent University Reseach Office requirements, all documentation will be securely kept for five years, in the event that an audit of the thesis research is conducted, or that the information is required for further analyses. After this, all material will be destroyed by the supervisor (paper documents will be shredded, audiotapes destroyed and electronic files will be deleted).

CONTACT INFORMATION OF RESEARCHERS:
If you have any questions about this study, please talk to the student researcher, her supervisor, or a University representative.

Rebecca J. Green
Graduate Student Researcher
Department of Applied Human Nutrition
Mount Saint Vincent University
rebecca.green@msvu.ca
[redacted]

Dr. Patty Williams
Thesis Supervisor
Department of Applied Human Nutrition
Mount Saint Vincent University
patty.williams@msvu.ca
(902) 457-6394

University Representative
This research activity has met the ethical standards of the University Research Ethics Board at Mount Saint Vincent University. If you have any questions or concerns about this study and wish to speak with someone who is not directly involved with this study, you may contact the University Research Ethics Board, by phone at 902-457-6350 or by e-mail at research@msvu.ca.

[MSVU Letterhead]

Informed Consent Form

If you have read the 2-page information sheet that explains the research study and are willing to take part, please read the following and sign below.

I understand that:

- I will take part in a 1.5 – 2 hour interview with Rebecca Green where I will be asked questions about my experience with getting enough food;

- Participation is completely voluntary, I may choose not to answer any question and I may withdraw from the interview at any point I choose;

- A possible risk of participating in this study is talking about an embarrassing or sensitive experience around not being able to get enough food I needed or wanted;

- It is hoped that this research will be used to improve programs and policies for seniors but there is no guarantee that this will happen;

- All information I provide is confidential, only Rebecca Green and her thesis supervisor (Dr. P. Williams) will have access to original data;

- I am welcome to discuss any questions or concerns about taking part in this study with Rebecca, her supervisor or a Mount Saint Vincent University Representative, whose contact information has been provided;

- I should keep a copy of the information sheet and informed consent form for my records.

~ Please turn over ~

I have read the information sheet on the research study titled: ***Accessing Nutritious Food: The Realities of Lone Senior Women in Urban Nova Scotia,*** and I am willing to be interviewed. I have been provided with enough information to make a decision as to whether or not I would like to participate in this research project.

Participant's Name_____

Signature_____ Date_____

I agree to be audio taped. YES___ NO___ Signature_____

I would like to read over the interview transcript. YES___ NO___ Initials _____

I would like to listen to the audio tape. YES___ NO___ Initials _____

I would like to receive a copy of the summary report when the study is finished, (approximately one year's time from now). YES ___ NO ___

If yes, please provide name and mailing address:
Name:
Street Address:
City & Province:
Postal Code:

Affordability Scenarios:
Can Lone Seniors Afford To Eat Well?

Using provincial food costing data, the student researcher wanted to determine whether the cost of a basic nutritious diet was affordable for seniors receiving public pensions living in Nova Scotia. She created different household scenarios comparing estimates of basic living expenses with incomes from Canada Pension Plan (CPP) and Old Age Security (OAS) in July 2005.

The scenarios suggested that seniors living alone were at greater risk for not being able to afford all their basic expenses compared to seniors living with a partner. Research also shows that women living alone are more likely to have inadequate income compared to men.

Below are the two lone senior households:

1) A single 67 year old female in NS, who received OAS basic pension and GIS.

2) A widowed 85 year old female in NS, she received the OAS basic pension and her deceased husband's CPP.
Note: Although she qualifies for GIS, this scenario was presented because every year nearly 100 000 seniors do not receive their GIS cheque because they did not renew their application through the income tax system on time[10]*. Elderly women are more likely to fail to apply for their GIS then any other senior group*[1]*.*

[10] National Advisory Council on Aging. (2005). *Seniors on the margins. Aging in poverty in Canada.* Ottawa, ON: Minister of Public Works and Government Services Canada.

Affordability Scenarios: Comparing Incomes vs. Expenses for Lone Seniors in Nova Scotia[11]

Household Composition	Single Female 67y	Widowed Female 85y
Monthly Net Income		
Old Age Security *(taxable)*	$363.50	$363.50
Guaranteed Income Supplement	$566.87	$0.00[12]
Canada Pension Plan *(taxable)*	$0.00	$378.95
GST benefit	$18.92	$18.92
Total	**$949.29**	**$761.37**
Monthly Basic Expenses		
Shelter/Rent[13]	$608.00	$608.00
Telephone[14]	$28.75	$28.75
Transportation[15]	$188.84*	$75.36**
Clothing, footwear, etc.[16]	$93.39	$93.39
Pharmacare[17]	$29.17	$29.17
Total	**$948.15**	**$834.67**
Funds remaining for food	$1.14	-$73.29
Cost of the NNFB[18]	$154.98	$150.89
Funds remaining for other expenses[19]	**-$153.84**	**-$224.18**

[11] Adapted from: Green RJ, Williams PL, Johnson CS & Blum I. Can Canadian Seniors on Public Pensions Afford a Nutritious Diet? Canadian Journal on Aging; in press 2008.

[12] Although she qualifies for GIS, this scenario was presented because every year nearly 100 000 seniors fail to renew their GIS application through the income tax system. Elderly women are more likely to not renew their GIS then any other senior group (National Advisory Council on Aging, 2005).

[13] Rent is for a one bedroom dwelling.

[14] Telephone cost for basic service only, no long distance plan.

[15] * based on cost of owning and operating 5 year old car.
** using public transportation (bus pass and 2 round trip taxi fares).

[16] Assumes purchasing new clothes and shoes.

[17] Assumes Premium is waived and households paying maximum co-payment of $350/year.

[18] NNFB= National Nutritious Food Basket, 1998 (a survey created by Health Canada to collect the prices of 66 different food items which can be used to calculate the cost of a nutritious diet).

[19] Other Expenses could include: other routine costs such as personal hygiene products, household and laundry cleaners, health care related costs beyond those covered by Pharmacare program, recreational activities, or savings for unexpected expenses or emergencies.

Appendix D. Recruitment Poster

Can Seniors Access Nutritious Food?

Rebecca Green, a graduate student from Mount Saint Vincent University is looking to interview senior **women** who:

- are 65 years or older
- Live alone in HRM (Halifax Regional Municipality)
- Receive a Guaranteed Income Supplement cheque each month

Rebecca wants to know how easy or difficult it is to get the healthy foods you need. During the interview she wants to hear your experiences with and opinions on:

- How do you get the food you need?
- Do you think you get the proper amount and variety of food you need?
- Public pensions – are they enough?
- Do you have enough money to pay for food and all the other things you need to buy each month?
- What are your suggestions on how to make it easier for seniors to access nutritious foods?

Interviews can take place in your home or at a public space of your choice (such as a Community Centre).

For details please contact: **Rebecca Green** [redacted]

Interviews can take between 1 - 2 hours.

You will receive a fruit/gift basket to thank you for your time.

Recruitment Site:
_____

Appendix E. Interview Guide

Accessing Nutritious Food:
The Realities of Lone Senior Women in Urban Nova Scotia

Interview Guide

INTRODUCTION
Introduction of researcher/interviewer (MSc thesis project)
Purpose of interview:

- To explore how you how you get the foods you need and want.
- To discover what helps you get the food you need…what hinders.

Informed Consent; Procedures; Taping; Test audiotape/recorder

START OF INTERVIEW

1. DEMOGRAPHICS
Age □65-74 □75+
Marriage Status (Single, Widowed, Divorced)
Children?

- Do they live near by?

What Senior Organization(s) are you a member of?

- Is this how you heard about this study?

2. A DAY IN THE LIFE OF
Walk me through a typical day for you….what do you normally eat?
Probes:

- Other meals? Snacks? Weekends different?
- How do you normally get the foods you eat?
- Does someone usually help you? (Regularly? Occasionally? In what capacity?)
- Tell me about how you prepare meals. (Cook? Adequate kitchen facility/appliances?)
- Tell me about meal times. (Eat alone?)

What does eating well (nutritiously) mean to you?

- enablers & barriers?

3. EXPERIENCES WITH FOOD INSECURITY
In many people's lives, there are times when they have difficulty getting enough nutritious foods (e.g. inadequate finances, health problem, problems getting around).
Has there ever been a time *(since you've been living alone & a senior)* when you had difficulty getting enough nutritious food? Tell me about this?

reminder that they can skip questions/withdraw at any point*

Probes:

- What led up to it? How did it begin?
- How did it change your normal eating pattern?
- Did you ever go hungry?
- How did you feel about the situation?
- What did you do to deal with this?
    - Friends, family, church, food bank etc.

Was there another time when you had difficulty getting enough nutritious food? (use same probes)

Do you ever worry a similar experience might happen again?

What are some of the things you do to make sure you have enough food to eat?

- e.g. ration, skip breakfast, use credit

What does it mean to you to be food secure? Food insecure?
When you hear the term "going hungry" what comes to mind?
Do you consider yourself to be food secure?

4. AFFORDABILITY SCENARIOS

Give brief background on food costing in NS and how affordability scenarios have been used in the past:

- *To assess affordability of food (do we have adequate income to cover necessary expenses?)*
- *To advocate for ↑ in min wage*
- *To advocate for ↑ in income assistance*

Constructed scenarios that examine the situation for seniors…comparing potential sources of income to basic necessary expenses. This has never been examined in seniors before…want to know how well presented scenarios reflect your reality. Also want to identify other significant factors which affect whether or not you are able to get enough nutritious food?

How do your actual sources of income compare with these scenarios?

How do your actual monthly expenses compare with these scenarios?

Probes:

- Shelter is the largest expense here…how does this compare to your situation?
    - own vs. rent? subsidized rent?
- Feasibility/accessibility of bus
- Affordability of prescription and non-prescription drugs
- Do you think you spend more or less than the monthly cost of the NNFB?
    - Do you purchase any therapeutic food items/foods for your health?
    - Do you prefer to buy more convenience items?
    - How often do you eat out?

Have you ever had to choose bill or medication over food?

*INFORM PARTICIPANT WE'RE NEARING THE END! *

5. MOST INFLUENTIAL ENABLER/BARRIER

The two affordability scenarios focus on lack of money as a main reason for not getting enough good food…

What is the biggest factor influencing YOUR ability to access the foods you need?
What would help you the most to better your access to food?

Probes:

- program or organization?
- Policy change around GIS, better Access-a-Bus service, smaller grocery stores etc.

6. SUMMARY

End on a positive note!!!

What have you learned from your experience with food insecurity (if applicable)? (e.g. Helped you realize you had more resources/support than you originally knew of?)

Anything you would like to add?
Anything you think I should have asked you but didn't?

* END OF INTERVIEW*

REMINDERS

- If you want a copy of the summary of my thesis results…name and address on informed consent
- Confidentiality
- Member checking