FOOD INSECURITY AMONG WORKING-AGE CANADIANS WITH DISABILITIES

by

Whitney Borowko
Bachelor of Arts, Simon Fraser University 2006

PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF PUBLIC POLICY

In the
Faculty
of
Arts and Social Sciences

© Whitney Borowko, 2008

SIMON FRASER UNIVERSITY

Fall 2008

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

Approval

Name: **Whitney Borowko**

Degree: **Master of Public Policy**

Title of Project: **Food Insecurity among Working-Age Canadians with Disabilities**

Supervisory Committee:

Chair: **Nancy Olewiler**
Director, Public Policy Program, SFU

Jonathan R. Kesselman
Senior Supervisor
Professor, Public Policy Program, SFU

_____

John Richards
Supervisor
Professor, Public Policy Program, SFU

_____

Dominique Gross
Internal Examiner
Professor, Public Policy Program, SFU

Date Defended/Approved: November 20, 2008

Abstract

Working-age Canadians with disabilities are at particular risk of long-term poverty, and recent evidence suggests they are also frequent users of food banks. This study uses the 2005 Canadian Community Health Survey to ask why food insecurity is so high among this population. The data reveal that food insecurity is three times higher among people with disabilities than the non-disabled population. Groups at high risk include social assistance recipients, younger adults, single parents, aboriginal people, and those with episodic disabilities. In the multivariate analysis, income is found to be most important determinant of food insecurity; on this basis, four policy alternatives are formulated and evaluated. The policy analysis concludes by recommending two options: the refundability of the existing Disability Tax Credit and a Basic Income program for people with severe disabilities.

Keywords: food insecurity; disability; working-age adults; poverty; social policy; income security

Subject Terms: Hunger – Canada; People with disabilities – Government policy – Canada; Canada – Social policy; Income maintenance programs – Canada

Executive Summary

Working-age Canadians with disabilities continue to face significant social and economic disadvantage that puts them at particular risk of long-term poverty. Recent evidence suggests that they are also among the most frequent users of food banks. In a high-income country such as Canada, the widespread use of food banks among this vulnerable population raises important public policy questions. In the post-war era, government programs were expected to provide an adequate social safety net for Canadians who could not provide for themselves.

By definition, people with disabilities already experience poorer health than other Canadians. Yet persistent food insecurity can exacerbate existing health conditions, cause additional ones, and have negative implications for social inclusion and the development of human, social, and economic capital. These adverse outcomes are important for the health and quality of life of individuals with disabilities and have long-term consequences for Canada's healthcare and social service systems.

This study uses the 2005 Canadian Community Health Survey (Cycle 3.1) to answer the question: why is food insecurity so high among working-age Canadians with disabilities? Analysis of the data reveals that this population has food insecurity rates almost three times greater than those without disabilities (10.3 percent vs. 3.5 percent). Of this population, one in ten had some form of food insecurity including worrying about having enough to eat or reducing food quality, while four in 100 had moderate hunger and one in 100 had severe hunger. The highest rates of food insecurity were found among social assistance recipients; over half were food insecure in 2005 while over 30 percent had severe or moderate hunger. Other at-risk groups are single parents, younger adults, aboriginal people, and people with episodic disabilities.

In the multivariate analysis, income is found to be the most important determinant of food insecurity; people in the first income decile were 59 times more likely to be food insecure than those in the tenth decile. Based on these findings, four policy alternatives are presented to reform Canada's disability income system: the status quo, making the Disability Tax Credit refundable, implementing a Basic Income program, and incorporating episodic disabilities into the Canada Pension Plan disability benefit. Four criteria – effectiveness, budgetary cost, equity, and administrative feasibility – are used to evaluate which option would best address the policy problem.

The policy analysis supports two recommendations. Quickly making the existing Disability Tax Credit (DTC) refundable would be an important first step in reducing food insecurity among people with severe and prolonged disabilities. It would do so with high political viability and administrative ease, moderate effectiveness and equity, and at a reasonable budgetary cost. It would also remedy a current inequity in the system whereby some people at very low incomes who qualify for the DTC can receive a benefit by transferring it to a spouse or caregiver, while others without such a party receive no benefit.

The second recommendation – a Basic Income (BI) program for working-age people with disabilities – would require a longer implementation period. This policy recognizes that social assistance is a fundamentally inappropriate system for meeting the income security needs of this population due to low benefit rates and an intrusive and punitive nature that further marginalizes a population already vulnerable to social exclusion. Instituting a BI would have to address difficult questions including how to define disability in operational terms, how to minimize work disincentives, and how to hold the provinces accountable for the spending of social assistance savings. Other outstanding issues include the high cost and associated finance as well as the political viability of reform.

This study concludes by suggesting that high rates of food insecurity among working-age adults with disabilities demonstrate an important deficiency in Canada's social safety net. This deficiency is further evidenced by the fact that simply turning 65 (and thus becoming eligible for OAS/GIS) immediately cuts the food insecurity rate of the average disabled person by 50 percent and by 90 percent if this person was a social assistance recipient. The federal government's approach to addressing disability issues over the last decade – minor and incremental tax credits and deductions – is insufficient to resolve this issue. In the past, the federal government has undertaken major initiatives to improve the income security of seniors and children. The case for replacing social assistance with an adequate, non-stigmatizing benefit is similarly compelling.

Dedication

For Matthew, Gary, Maxine, and Lindsay,

Without you, I would not be where I am today. All of my successes, current or future, are testaments to your love and support.

Acknowledgements

First, I extend my deepest gratitude to Jonathan Kesselman who contributed countless hours and expert guidance to this study. I am especially grateful for his immense expertise in the area of social policy design and his strong support of my academic and professional pursuits. I am extremely grateful to Dominique Gross; her insightful critique during the defence of this project and efforts to ensure the rigour of the statistical work was critical to the success of the project. Thanks also to Nancy Olewiler whose leadership and unwavering support has been inspirational throughout the program.

I gratefully acknowledge the financial support of the Social Sciences and Humanities Research Council of Canada (SSHRC) through the Canada Graduate Scholarship. My sincerest thanks also go Kennedy Stewart, Ann Travers, and Olena Hankivsky for their help securing this funding.

Appreciation is also given to Statistics Canada for providing access the CCHS 3.1 microdata through their Research Data Centre (RDC) program at the University of British Columbia. A special thank you also goes to Michael Mendelson at the Caledon Institute of Social Policy who provided me with an unpublished copy of their upcoming report on reforming Canada's disability income system.

Finally, my heartfelt thanks to Lyndsay Poaps, Hannah Cavendish-Palmer, and Allison Dunnet for their friendship and support; I look forward to hearing about your future successes over many more brunches in the years to come.

Table of Contents

List of Figures and Tables

1 Introduction

This study is the first in-depth Canadian investigation into the relationship between disability and food insecurity. While food bank surveys indicate that food insecurity is high among working-age adults with disabilities, this relationship has not been examined empirically in a national context. This study addresses the policy question: why is food insecurity so high among this population? It uses the 2005 Canadian Community Health Survey (Cycle 3.1) to understand the key determinants of food insecurity in order to develop effective policy solutions.

Understanding food insecurity among this population and developing effective policy solutions is important for three key reasons. First, by definition, people with disabilities already experience poorer health than other Canadians. Food insecurity, especially over a prolonged period, can exacerbate existing health conditions and cause additional ones including nutritional deficiency, diabetes, and heart disease. It can also have negative implications for social inclusion and the development of human, social, and economic capital. Thus, in addition to individual health and quality of life issues, food insecurity can have long-term cost implications for Canada's healthcare and social service systems.

Second, poverty spells are often of short in duration in Canada. Some individuals and households move in and out of poverty along with changes in their economic circumstances. However, some groups including people with disabilities are at high risk of persistent or even life-long poverty. Since 44 percent of this population are not in the workforce and 64 percent report that their condition

completely precludes them from employment, they tend to be highly reliant on government social programs (Statistics Canada, July 2008).

Third, the prevalence of disabilities within the Canadian population will notably rise as the population ages. As a result, these issues will become even more salient for policymakers in the coming years. Age is a primary determinant of disability. Among the working-age population, only 4.7 percent of those aged 15-24 have disabilities but this number rises to 22.8 percent among those aged 55-64 (Statistics Canada, December 2007). Providing for the physical, economic, and social well-being of Canada's aging population within fiscal constraints will be a crucial challenge for the Canadian government in the years ahead.

The study is organized as follows. Section two presents the policy problem, followed by surveys of key Canadian studies on the determinants and prevalence of food insecurity in section three. Section four presents an overview of disability in Canada and the implications of disability for poverty, while section five assesses the main deficiencies of the current disability income system. The sixth section describes the data and study methodology including the theoretical model, dependent and independent variables, hypotheses to be tested, and statistical methods used. The data findings are presented in section seven. The remaining sections formulate and evaluate four policy alternatives by the criteria of effectiveness, budgetary cost, equity, and administrative feasibility. The paper concludes with two policy recommendations and a discussion of the political viability of reform.

2 The Policy Problem

2.1 Motivation and Policy Problem

Canada does not have the extreme destitution and widespread hunger found in many parts of the world. However, the increasing number of food bank recipients over the past few decades indicates that hunger is a serious and growing problem in our society. When the first food bank was started in Edmonton in 1981 during a recession, it was expected to be a temporary crisis measure (Riches, 2002, p.651). In contrast, food bank use has expanded over the last two decades even in times of high economic growth and they are now considered crucial community resources to help families and individuals meet one of their most basic needs.

In a high-income country such as Canada, the proliferation of food banks over the past two decades raises important public policy questions. In the post-war era, government programs were expected to provide an adequate social safety net for Canadians who could not provide for themselves (Banting, 2006). Yet food bank statistics demonstrate that increasing numbers of Canadians must rely on private charities for sustenance. In March 2007 alone, over 700,000 Canadians were assisted by food banks, an increase of 91 percent since 1989 (Pegg, 2007 p.6).

Recent evidence suggests that people with disabilities are among the most frequent users of food banks. In the Daily Bread Food Bank's 2007 survey of food bank users in the Greater Toronto Area, 51 percent of respondents reported a disability that restricts their ability to maintain regular employment. Among long-term users, defined as using food banks for two or more years, working-age people

with disabilities comprised the majority. This data raises the policy question: why is food insecurity so high among working-age Canadians with disabilities?

2.2 Defining Disability

Statistics Canada defines people with disabilities as those who report difficulties with daily living activities or who indicate that a physical or mental condition or health problem reduces the kind or amount of activities they can do at home, at school, or in other main areas of life. In 2006, 2.5 million Canadians of working-age (15 to 64) were considered disabled, representing 11.5 percent of the population in this age category (Statistics Canada, 2007, p.9). This definition reflects movement away from those that considered only an individual's medical condition. Instead, contemporary definitions tend to emphasize the condition's actual impact on a person's ability to function on a daily basis. Such functional limitations can differ considerably from person to person (HRSDC, 2003). Daily living activities typically considered when assessing disability include walking, feeding or dressing oneself, perceiving, thinking, and remembering, speaking, hearing, and eliminating bodily waste.

2.3 Food Insecurity and Its Implications

Food insecurity is a concept that includes but is not limited to hunger. It encompasses issues regarding the nature, quality, and security of the food source as well as issues of access (Tarasuk, 2001). It is broadly 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" (Davis and Tarasuk, 1994, p.50). Food insecurity tends to be a continuum, starting with compromising the quality of one's diet and worrying about having enough to eat, and ending with

moderate to severe hunger. Food security exists when individuals have a range of options at their potential disposal, most of which are desirable/socially acceptable, and they have the confidence they can use them (Rainville and Brink, 2001, p.3).

Kirkpatrick and Tarasuk (2008) analyzed the impact of food insecurity on nutritional inadequacy, a relationship that was poorly understood due to the lack of population-level data. Data came from the 2004 Canadian Community Health Survey and included extensive questions on dietary intake including a 24-hour diet recall. The researchers found that adults and adolescents in food insecure households had poorer dietary intake than those in food secure households even when controlling for potential confounding factors in multivariate analyses. The largest difference existed for protein, vitamin A, thiamine, riboflavin, vitamin B6, folic acid, vitamin B12, magnesium, phosphorus, and zinc.

Rainville and Brink (2001) suggest that the experience of food insecurity can also have undesirable behavioural consequences (See Table 1). They assert that food secure people have a future orientation; they can focus on goals other than survival, take risks when seizing opportunities, and develop social, economic, and human capital. Food insecure people whose nutrition is compromised exhibit the opposite behaviours. They must focus their efforts on survival and consequently have a constrained ability to develop human, social, and economic capital.

Table 1: Behavioural Differences by Food Insecurity Status

Food Insecure	Food Secure
Focus efforts on survival, could be time poor	Focus efforts on desired goals
Lack of resilience, no fall back	Seize opportunities, take risks
Live from moment to moment	Future orientation
Have difficulty investing in themselves	Develop social and human capital
Poorer social network	Ability to develop support system

Source: Adapted from Rainville and Brink: 2001, Table 1.1 p. 3

3 Literature Review

Surveys across multiple years and Canadian jurisdictions have found key demographic and socio-economic characteristics to be prevalent among recipients of food banks, providing some initial insight into the determinants of food insecurity. According to the Canadian Association of Food Banks (CAFB), the main household types among food bank users are unattached individuals (37.4 percent) followed by lone-parent families (28.4 percent) (Pegg, 2007 p.6). In terms of primary income source, only 13.5 percent of users cite employment. The majority (74.6 percent) rely on social programs with social assistance being the most common source at 50.7 percent. Renting is also much more frequent than home ownership at 85 percent vs. 7.7 percent.

The Daily Bread Food Bank's annual survey of food bank users in the Greater Toronto Area is the largest and most comprehensive regional survey in Canada; it collects more detailed demographic and health information than the CAFB. In 2007, Daily Bread found 62 percent of their clients to be of working-age (19-64), followed by children (34 percent) and seniors 65 (3 percent). Household type reflects the national results with 44 percent being unattached individuals and 19 percent being lone parents. In terms of general health, 40 percent describe their health as fair to poor.

The Daily Bread's data further suggests that people with disabilities are particularly susceptible to food insecurity. In 2007, 51 percent of the 1900 survey respondents reported a disability that restricts their ability to maintain regular employment. Seventy percent report not using a food bank before the onset of their

disability or illness. People with disabilities also comprise the majority (69 percent) of long-term food bank users, defined as using food banks for two or more years.

In terms of social program receipt, almost half of food bank clients with disabilities (49 percent) report that they were not receiving either Canadian Pension Plan disability benefits or benefits under the Ontario Disability Support Program (ODSP), Ontario's social assistance program for people with disabilities. When asked why they were not receiving ODSP, 56 percent had never applied, 24 percent were waiting to hear whether their application was successful, 14 percent had had their applications rejected, and 6 percent were appealing a rejection. In lieu of disability benefits, many were receiving regular social assistance payments. Moreover, of the 28 percent of food bank clients who had been on regular social assistance for over two years, 54 percent report a disability or serious illness that prevents them from entering the workforce.

Though indicative of a hunger problem among people with disabilities, food bank data is an inadequate data source for understanding this issue as it provides a limited, non-representative picture of the issue. Food bank statistics also underestimate the prevalence of food insecurity in the Canadian population as only 35.4 percent of food insecure households report receiving food from charitable institutions including food banks or soup kitchens during the previous year (Vozoris and Tarasuk, 2003, p.122).

When the National Population Health Survey (NPHS) began collecting food insecurity data for 1996/1997, researchers started analyzing the demographic and socio-economic factors associated with food insecurity. Che and Chen (2001) find that the households at greatest risk of food insecurity are those whose main

source of income was social assistance, unemployment insurance, or worker's compensation, single-mother-headed families, renters, and Aboriginal people. Experiencing food insecurity is also significantly correlated with poor health including obesity, multiple chronic conditions, distress, and depression.

Rainville and Brink (2001) find that while 9 percent of the general Canadian population report food insecurity, this rises to 16.9 percent among respondents with an activity restriction (Rainville and Brink, 2001, p. 19). Logistic regression corroborated several of Che and Chen's results; food insecurity is associated with low household incomes, renting, aboriginal status, and single-parent households. It is also higher for respondents with an activity restriction or a chronic medical condition with odds ratios of 1.86 and 1.13 respectively. Source of household income was particularly significant; households with social assistance as the main income source are three times more likely to be food insecure than other households.

Rainville and Brink also find that people with disabilities and/or poor health were particularly vulnerable to food acquisition problems; 15 percent cite a health problem, and 11 percent cite long-term disability as a main barrier to acquiring food. Furthermore, people with activity restrictions use different coping strategies than people without, being more likely to compromise their diet by eating cheaper food and skipping meals and less likely to access food from charities. They conclude, "this suggests that households with restricted activity might use food management strategies because they may not be mobile enough to engage in other coping mechanisms" (Rainville and Brink, 2001, p.28).

While Canadian studies using national data sets document that food insecurity is correlated with activity restrictions and chronic health conditions, the

relationship between disability and food insecurity is insufficiently understood. By examining the key demographic, health, and socio-economic determinants of food insecurity among working-age people with disabilities and their relative importance, this study will address an important gap in the literature and support the development of effective policy solutions.

4 Background: Disability and Poverty in Canada

4.1 A Profile of Disability

People with disabilities are a growing segment of the Canadian population. Between 2001 and 2006, the national disability rate increased from 12.4 percent to 14.3 percent. An aging population accounts for approximately 40 percent of the growth in the disability rate, and while the rest of the difference is unaccounted for, it could reflect increased social acceptance of reporting a disability (Statistics Canada, 2007, p.14).

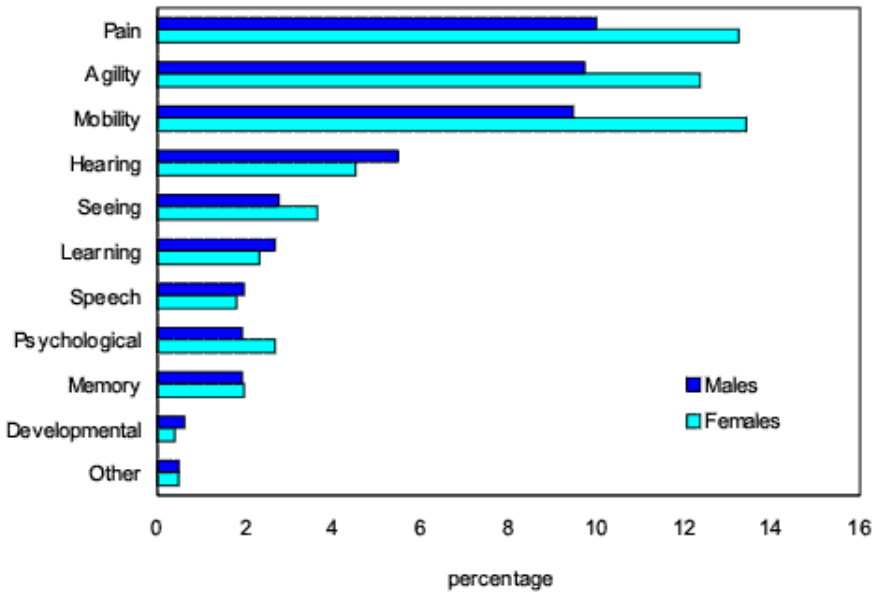
The prevalence of disability increases with age; only 4.7 percent of those aged 15 to 24 had a disability in 2006, compared to 22.8 percent of those aged 55-64 (See Table 2). In Canada, the three most prevalent types are mobility, agility, and pain disabilities with about 11 percent of the entire adult population reporting each type (See Figure 1). Women are more likely than men to have most types of disabilities, resulting in a higher overall prevalence of disability (15.2 percent vs. 13.4 percent). The majority of adults with disabilities (81.6 percent) also have more than one (Statistics Canada, 2007, p.35). Disabilities differ in severity with 35.4 percent of people with disabilities having mild, 24.8 percent having moderate, 26.3 percent having severe, and 13.5 percent having very severe conditions.

Table 2: Prevalence of Disability by Age Group among Working-age Adults in Canada, 2006

Age Group	Number of People with Disabilities	As a Percent of Age Group
15 to 24	195,500	4.7
25 to 34	239,600	6.1
35 to 44	456,930	9.6
45 to 54	740,990	15.1
55 to 64	824,920	22.8

Source: Statistics Canada, December 2007.

Figure 1: Prevalence of Disabilities in Adults 15 Years of Age or Older, By Type of Disability and Gender, Canada, 2006



Source: Statistics Canada, 2007, p.31.

Disabilities can have many causes (Mustard et al., 2007). Some are genetic or exist from birth while others are acquired during childhood or adulthood. Approximately 20 percent of disabilities in the working-age adult population are

due to injuries or diseases resulting from work; recreational activities and motor-vehicle accidents are other prominent causes. The onset of mental health disorders generally occurs in adulthood, as does the development of debilitating addictions. Chronic diseases including osteoarthritis, diabetes, and cardiovascular disease can also progress into disabling conditions.

4.2 Perspectives on Disability

Two distinct perspectives on disability inform the design of social programs and policies in Canada. The first, dominant for most of the 20th century, regards disability as biomedical sickness or deficiency. In the post-war era, people with disabilities were considered unable to function in society and thus deserving of government assistance. The main policy goal was to reduce the burden on family and caregivers through charitable assistance. Rioux and Prince (2002) argue that this perspective on disability and its subsequent policy direction had dire consequences for people with disabilities. Many were denied basic citizenship rights and segregated in residential facilities, community services, and education vocational programs. They state, "[t]he costs of being worthy poor have been high for people with disabilities, including extremely high rates of unemployment, violence and abuse, illiteracy, poverty, illness, social isolation, and discrimination" (Rioux and Prince, 2002, p.14).

A second, more contemporary perspective views disability as a socio-political construct that results from "complex interactions between a health problem or functional limitation and the social, political, cultural, economic, and physical environment" (HRSDC, 2006). In this view, it is not the disability *per se* that prevents people from fully participating in society; rather, it is the obstacles erected by society. Michel Delcey summarizes the two perspectives as follows:

"[t]he medical model tries to adapt the individual to society whereas the social model tries to adapt society to the diversity of individuals that comprise it" (translated and referenced in HRSDC, 2006, p.74).

By shifting the onus for change away from individuals to the institutions that deny them their full citizenship rights, the social perspective on disability sees the role of public policies and programs as facilitating participation. Long championed by the disability rights movement, this view has been increasingly incorporated into federal reports and budget speeches over the last decade. Despite a shift in disability discourse, the influence has been uneven; some policies and programs still reflect a charity model, while others stress promoting inclusion and empowerment.

4.3 The Impact of Disability on Poverty

People with disabilities are particularly likely to be poor in Canada. In 2000, approximately 27 percent of working-age adults with disabilities lived in a low-income family (Data Probe and Spector, 2006, p.1). At 14 percent, the incidence of low income in the general population was just half that of adults with disabilities. The impact of disability on poverty is most pronounced for those with work-limiting disabilities. Compared to the non-disabled population, individuals in this group were three times as likely to be poor and four times as likely to be receiving social assistance (Bernstein, 2005, p.9). People with work-limiting disabilities constitute one of the five population groups at risk for persistent low

income in Canada, that is, remaining below the low income cut-offs for at least six consecutive years.[1]

According to Hurt (2007), significant groups of people with disabilities have episodic or cyclical conditions that result in particular barriers to work. Potentially episodic disabilities include multiple sclerosis, mental health disorders, chronic fatigue syndrome, fibromyalgia, chronic pain syndromes, and respiratory illnesses. These conditions can result in a fluctuating capacity to work. Individuals with these conditions are often able and willing to work under modified work arrangements or during periods when their condition is improved even if they cannot work full-time or full-year.

High rates of poverty reflect exclusion from and disadvantage within the labour force. In 2006, 44 percent of working-age people with disabilities were not in the labour force compared to 20 percent of the general Canadian population (Statistics Canada, July 2008). Those in the labour force also face considerably higher unemployment rates than their able-bodied counterparts; this difference was 10.4 percent vs. 6.8 percent in 2006. In the less buoyant economic setting of 2001, the respective rates were at 13.2 percent vs. 7.4 percent. This difference reflects the sensitivity of this population to cyclical changes in the economy; during labour shortages, employers are more willing to hire and provide supports for people with disabilities, a situation that reverses during economic downturns.

The low labour force participation of people with disabilities reflects limitations imposed by their condition as well as those imposed by their social

[1] The other four groups are lone mothers, unattached persons aged 45-59, recent immigrants, and off-reserve aboriginal people.

context (Statistics Canada, July 2008). The majority (62.6 percent) of those out of the labour force in 2006 reported that their condition completely prevented them from working. However, the remaining 37.4 percent reported that their main barrier to work was not their health condition but discrimination from employers and/or a lack of assistive supports and workplace accommodations. Accordingly, integrating people with disabilities into the workforce through changing attitudes and providing the needed supports has been a main concern of disability organizations and, to a lesser degree, of federal and provincial governments.

Vulnerability to low income differs according to type of disability (Statistics Canada, July 2008). Of those with learning, memory, and/or speech limitations, less than 20 percent were in the labour force in 2006 compared to 53 percent of those with other disabilities. Furthermore, people with these conditions who were in the labour force (i.e. either employed or looking for work) had 3-4 percentage point higher rates of unemployment than those with other types of disabilities (Statistics Canada, July 2008). Thus, it is not surprising that those with learning, memory, and/or speech limitations had a 37 percent likelihood of living in a low-income family, 10 percentage points higher than people with disabilities in general (Data Probe and Spector, 2006, p.28).

Severity of disability also affects the likelihood of low income (Data Probe and Spector, 2006). In 2001, 18 percent of those with mild levels of disability lived in low-income families, which is only 4 percentage points higher than the rate for people without disabilities. However, those with very severe conditions had a 41 percent likelihood of low income, 27 percentage points higher than the rate for people without disabilities.

When combined with disability, particular socio-demographic traits can increase the likelihood of low income. These characteristics include family status, education, age, and geography. Unattached individuals and single parents are more likely to live in low income because there is no other contributor to the household income; having either characteristic increases the likelihood of low income by 20 percentage points (Data Probe and Spector, 2006, p.ii). Other characteristics are having less education and residing in high unemployment regions.

Another demographic group with particular vulnerability to low income is young adults. This partially reflects the situation of young adults in general who are at the beginning of their work careers. It also reflects that experiencing the onset of disability early in life, rather than later, results in certain disadvantages. Young adults who become disabled have not had the time to amass the financial, human, and social capital that can help protect them from poverty. In contrast, their older counterparts have histories of labour market attachment that also provide greater entitlement to employment-related disability benefit plans.

Because people with disabilities have increased incidence and persistence of poverty and reduced rates of labour force participation, they are highly likely to rely on social programs including social assistance and the Canada/ Québec Pension Plan Disability Benefit. However, reliance on social programs does not necessarily reduce the risk of low income. The next section presents an overview of the main programs that comprise Canada's disability income system and key critiques of this system.

5 Canada's Disability Income System

In terms of international comparison, the OECD characterizes Canada's system as a dual benefit system that combines contributory social insurance programs for labour force participants with means-tested disability benefits for those with minimal labour force attachment (OECD, 2003). Unlike countries with a unified system, Canada's disability income system is a poorly integrated 'patchwork' of several programs each with its own definition of disability, eligibility requirements, benefit level, duration of entitlement, and work incentives (Mustard et al., 2007; Torjman, 1997; Prince, 2008).

5.1 Canada/Québec Pension Plan Disability Benefits

Disability benefits provided under the Canada Pension Plan/Québec Pension Plan disability benefit (CPP-D) operate as Canada's primary long-term disability-related social insurance program. Its aim is to replace the wages of workers who become disabled. CPP-D is the only employment-based benefit available to the majority of workers regardless of their medical history or cause of disability as it is financed through payroll taxes on employers and employees. Eligibility for benefits depends upon having made valid contributions in three of the six previous years.[2] These contributions are mandatory for every Canadian worker over age 18 who earns more than a specified annual minimum ($3,500) in employment or via self-employment.

[2] The contribution requirement was formerly four of the previous six years; this was changed in March 2008.

CPP-D covers all types of disabilities, regardless of the cause as long as they are severe and prolonged and the individual is not expected to return to work. Severe is defined as incapable of regularly pursuing any substantially gainful occupation, and prolonged is defined as likely to be long, continued, and of indefinite duration (at least the next 12 months) or likely to result in death. Due to their severe disabilities, a 2001 survey found that 69 percent of CPP-D beneficiaries required some type of assistive device for their daily activities (PALS 2001 referenced in Prince 2008, p.3). The lack of coverage for temporary and partial conditions is reflected in a very low turnover rate for CPP-D beneficiaries of less than 1 percent annually (Prince, 2008, p.3).

Applying for CPP-D requires a detailed medical assessment. After a 3-month waiting period, successful applicants are eligible for benefits until they regain the ability to work or until retirement at age 65. This benefit provides approximately 30 percent of covered earnings at average income; benefits are indexed to inflation and treated as taxable income. In 2005, the average monthly benefit was nearly $775 for an annual income of $9,300. Over half (55 percent) of all applications are denied, one of the highest rates in OECD countries. While denied applicants have access to an elaborate system of review and appeals, the success rate is similarly low (Prince, 2008).

While CPP is under federal jurisdiction and administration due to a constitutional amendment in the 1960s, major changes to the program require consent of the federal parliament as well as the legislatures of at least six provinces representing two-thirds of the Canadian population. Québec operates its own plan, but the two plans are so similar that they can be considered a joint plan for most purposes (Puttee, 2002, p.88).

5.2 Social Assistance

Social assistance or welfare is a provincial program of last resort paid to those with little or no income or assets. It is funded primarily through general provincial revenues, although the provinces receive some federal funds for social programs through the Canada Social Transfer (CST). Before 1996, the federal government funded a larger portion of health and social programs through the Canada Assistance Plan (CAP), a cost-sharing agreement with the provinces that imposed limited national standards for welfare. While separate welfare programs have historically existed in each province with different eligibility requirements, reporting requirements, and benefit levels, this divergence has increased since the end of CAP and its application of limited national standards.

Social assistance is a highly stigmatizing social program that is difficult to access in most provinces and has extensive administrative requirements that are complex and punitive (Banting, 2006). Applicants must typically divest themselves of almost all assets or savings and not be living in a household with anyone else who is earning employment income. It is also intrusive as evidenced by frequent reviews of income and personal investigations (Mendelson et al., forthcoming, p. 2). Most provinces administer separate programs within the welfare system for people with disabilities, using a similar definition to the CPP-D disability benefit that requires the condition to be "severe and prolonged." Compared to regular welfare, disability-specific benefits tend to have slightly less severe income and asset limitations and other conditions of assistance.

The disability application process can be so onerous that many disabled applicants rely on regular welfare in the short or long term. As noted above, of the 28 percent of Daily Bread food bank clients who had been on regular social

assistance for over two years, over half reported a disability or serious illness (Daily Bread, 2007). Advocates consider this situation so widespread that Fraser et al. (2003) named their report on Ontario's disability welfare system "Denial by Design." Similarly, the BC Coalition of People with Disabilities states that the process of applying for disability social assistance is so arduous in BC that many applicants are denied "not because of financial ineligibility, but because they cannot manage the procedural barriers that are a part of the application process" (BCCPD, 2007, p.15). Therefore, although data is not collected on the numbers of people with disabilities who are relying on regular assistance, these numbers may be substantial.

Although disability-specific welfare benefit rates are generally higher than the regular rates, they are still far below Statistics Canada's low-income cut-offs (LICOs). In 2005, annual welfare incomes in Canada for a single person with a disability ranged from a low of $7,851 in Alberta to a high of $12,057 in Ontario, representing 38 percent and 58 percent of the these province's respective LICOs (National Council of Welfare, 2006, p.10-14). Furthermore, as Table 3 shows, the real value of disability social assistance decreased substantially between 1997 and 2005. For half of the provinces, substantial declines of between 12 percent and 19 percent were seen over this period. In seven of the provinces, the current rates are lower in real terms than at any time since data collection began in 1986 (Prince, 2007, p.11).

Table 3: Annual Welfare Incomes of Persons with a Disability (2005) as a Percent of the Low-Income Cut-off and in Comparison to 1997

Province	Welfare Income 2005 ($)	Welfare Income as % of LICO 2005	Change in Real Income since 1997 ($)	Change in Real Income since 1997 (%)
Newfoundland	9,728	54	-1,327	-12.0
PEI	8,084	45	-1,921	-19.2
Nova Scotia	8,897	50	-1,525	-14.6
New Brunswick	7,995	45	-124	-1.5
Québec	10,063	48	-137	-1.3
Ontario	12,057	58	-1,855	-13.3
Manitoba	8,601	41	-1,132	-11.6
Saskatchewan	8,893	50	-541	-5.7
Alberta	7,851	38	-215	-2.7
BC	10,656	51	-693	-6.1

Source: National Council of Welfare (2006, pp. 31-32, 49-50)
Note: Calculation of decline uses constant 2005 dollars.

5.3 Private Disability Insurance Plans

Private long-term disability (LTD) insurance plans provide coverage to employees and their families in the event that disabilities, injuries, or serious illnesses cause a loss of income. Slightly over half (55 percent) of the Canadian workforce is employed by companies providing access to such plans (Mustard et al., 2007, p.4). Most plans provide benefits for two years for those unable to perform their own occupation, after which benefits are provided only for those unable to perform any job for which they are reasonably educated or trained.

According to Mustard et al. (2007), an estimated 166,100 working-age Canadians received LTD benefits in 2001. Men were almost twice as likely as women to receive LTD benefits with the exception of the 55-64 age group. Typical benefit rates are pegged at 50-75 percent of pre-disability income (Mustard et al., 2007, p.6). Thus, benefits for LTD plans are considerably higher than those paid

by any public disability insurance program; in 2001, the average annual benefit was $26,900, and recipients had annual employment incomes averaging $6,700.

5.4 EI Sickness Benefits

The Sickness Benefits component of Employment Insurance is not a disability support program *per se*; benefits are short-term and targeted at people generally considered employable. However, EI Sickness Benefits do play an important role in providing income security for workers whose careers are interrupted by illness or disability, and 4.3 percent of adults with disabilities received EI Sickness Benefits in 2001 (Prince, 2008, p.9). The EI program is under exclusive federal jurisdiction because of a 1940s constitutional amendment.

Like, CPP-D, EI Sickness is a social insurance program based on payroll contributions; applicants must have accumulated 600 hours of insurable employment in the last 52 weeks or since the last claim. They must be deemed incapable of performing the duties of regular or usual employment or of other suitable employment because of sickness, injury, or quarantine but would otherwise be available for work (Prince, 2008, p.4).

Medical documentation is necessary to qualify, although it is far less extensive than the CPP-D requirements. As a result, recipients tend to be younger and have less severe conditions. The waiting period for EI sickness benefits is two-weeks after which benefits can be received to a maximum of 15 weeks. A system of review and appeals is in place for benefit denials. In 2005, the basic benefit rate was 55 percent of average insured earnings to a weekly maximum of $413. Part-time work is still permitted while receiving benefits.

In international terms, Canada has one of the shortest periods for sickness benefits. Among the countries of the OECD, Canada is one of only three countries (including the US and Korea) that provide less than six months of benefits. Several countries (Greece, Italy, and the UK) offer up to 26 weeks while others offer benefits for up to one year (Austria, Belgium, Norway) or even longer (Denmark, France, Finland, Germany, Netherlands, Portugal, and Switzerland) (Prince, 2008).

5.5 Workers' Compensation

Workers' compensation is a social insurance program designed to protect Canadians against the risk of injury, sickness, or death at work (Puttee, 2002). These programs fall within provincial jurisdiction and are independently designed and operated by each province. Financed through payroll taxes on employers at rates that vary by industry, coverage ranges across provinces from 70 percent of workers in Ontario to over 95 percent in Québec. Excluded workers include the self-employed, domestic workers, casual or seasonal workers, and small firms (Puttee, 2002, p.84). The conditions considered to be workplace injuries also vary by province. They typically exclude chronic stress, many diseases, and repetitive strain injuries, conditions that represent a growing proportion of workplace-related injuries.

In most provinces, a dual award benefit system is in operation for those who are permanently disabled on the job, including both an initial lump-sum payment and ongoing pensions. Pension benefits are calculated as a percentage of the difference between net pre-injury earnings and current earnings or potential earnings if they could return to the workforce; this rate is 90 percent in most provinces. The maximum available payments vary greatly; Newfoundland's

maximum annual pension in 1998 was $22,300 compared to $42,700 in British Columbia.

Injured workers can also be eligible for CPP-D if their condition is severe and prolonged. Some provinces claw back the WCB benefit fully or partially, while others allow recipients to collect both benefits. In some cases, this can result in total benefits that are higher than pre-injury earnings. Unlike CPP-D, WCB places a strong focus on the rehabilitation of injured/diseased workers which reflects several factors: a caseload with a higher proportion of accidents than disease cases; the coverage of temporary and partial disabilities (which CPP-D does not cover); and the need to offset work disincentive effects (Puttee, 2002).

5.6 Federal Tax Credits and Deductions

Federal disability tax policy is based on the recognition that people with disabilities and their caregivers have a reduced ability to pay taxes due to extra disability-related expenses (HRSDC, 2006, p.68). While tax credits and deductions are not an income security program *per se*, they deserve mention as over the past decade they have become the federal government's primary policy instrument for addressing disability issues (Prince, 2001, p. 35). During the 1990s, a period of considerable fiscal restraint, over 20 tax assistance measures within six federal budgets were directed specifically at persons with disabilities. Finance Canada has developed a number of tax credits and deductions for working-age people with disabilities and their caregivers, most notably the Disability Tax Credit (DTC). In 2005, the amount of the credit was 15 percent of $6,596, which provided a federal tax reduction of up to $989.40 for the disabled individual (Mendelson et al., forthcoming, p. 3). The credit is non-refundable and thus of no direct benefit to

individuals with incomes so low that they are non-taxable; however, it can be transferred to a spouse, parent, or other relative.

5.7 Numbers of Program Beneficiaries

Due to the fragmented nature of Canada's disability 'system,' an overarching picture of recipients served and benefits paid was unknown until recently. In 2007, Mustard et al. combined data from the Participation and Activity Limitation Survey (PALS) with the Survey of Income and Labour Dynamics (SLID) to provide the first description of the differences in income security outcomes across the four principal disability income programs – CPP-D, social assistance, workers' compensation, and long-term disability benefits. Their work includes robust estimates of the number of recipients, the average benefit amount, and the total expenditure for each of the major disability support programs (See Table 4). There is some overlap across programs, as CPP-D is the "first payer" to provincial workers' compensation and social assistance programs. While this is most common with workers' compensation and CPP-D benefits, it also occurs when provincial social assistance programs top up the CPP-D benefit to the provincial rate for people with disabilities (Torjman, 2002, p.40). Provincial social assistance programs generally require disabled beneficiaries to apply for all CPP-D benefits to which they are entitled.

According to this analysis, in 2001, 5.1 percent of Canadian adults aged 15-64 (928,120) received disability benefits through CPP-D, social assistance, workers' compensation programs, and private disability insurance plans. About 30,000 people received benefits from more than one program, mainly combining CPP-D and workers' compensation. The combined program expenditure for all four programs was $12.7 billion (Mustard et al., 2007).

Table 4: Canada's Disability Income Programs in 2001: Caseload, Benefits Paid, and Total Cost

Program	Average Annual Benefit	Total Benefits Paid	Average Employment Income	Beneficiaries (#)
CPP-D	$8,767	$2.4 billion	$4,383	279,604
Workers' compensation	$17,734	$2.3 billion	$10,392	130,466
Social assistance	$9,796	$3.4 billion	$524	351,896
Private disability insurance plans	$26,929	$4.4 billion	$6,796	166,154

Source: Mustard et al. (2007) based on combined data from 2001 and the Survey of Labour and Income Dynamics (SLID) 2001.
Note: Some beneficiaries rely on more than one program.

5.8 Key Critiques of the System

From an income security perspective, Canada's disabilities support system raises three major issues: complexity, horizontal inequity, and inadequacy. High transaction costs and a lack of information are key factors known to reduce social program take-up rates among the eligible population. Yet the existence of multiple programs with different definitions of disability, eligibility requirements, and application processes makes it difficult for people with disabilities to understand and access the benefits available to them. This is particularly problematic for those with intellectual or mental health disabilities and those who are isolated, homebound, and without social support.

The principle of horizontal equity requires that people in similar circumstances be treated the same; yet two people with the same disability and functional limitation can receive different types and levels of benefits depending on the programs for which they are eligible. One example of inequity in the system is as follows: imagine a situation in which someone in his or her 30s or 40s who has

worked for 10 years sustains a serious head injury at work. In the short-term, they are eligible for EI sickness benefits, and if the condition is deemed severe and prolonged, they are then eligible for C/QPP and workers compensation, benefits that can be combined in many provinces. Next, consider a student in their 20s who has little labour force attachment and who sustains an identical head injury while skiing. He or she is not eligible for EI sickness benefits, C/QPP or private disability plans and must instead turn to provincial social assistance, the program of last resort.

The gaps in Canada's disability income system mean that certain groups of people are not eligible for assistance or are eligible only for social assistance. Two groups of people are of particular concern. The first group, as mentioned above, are those without adequate labour market attachment who are ineligible for the main disability income programs – CPP-D, long-term disability, and EI Sickness. These individuals are often youth who are at the beginning of their working lives or women who have dropped out of the workforce to raise families. The second group is people with episodic disabilities, as they do not meet the "severe and prolonged" definition used by CPP-D and most social assistance programs.[3] Episodic disabilities include mental health issues, HIV/AIDS, and multiple sclerosis among many others.

Even those who can access disability benefits face problems with the adequacy of those benefits. According to Data Probe and Spector (2006), recipients of social assistance were four to five times more likely to be low income compared to other working-age adults with disabilities, while those receiving veteran's benefits or C/QPP were only slightly more likely to be low income. The

[3] For a detailed policy analysis of the case of episodic disability, see Hurt (2007).

adequacy of benefits is also indicated by the large majority (75 percent) of food bank recipients who rely on social assistance and other social programs.

Based on a definition promoted by the Canadian Mental Health Association, Torjman (1997) describes adequacy as a fair and reasonable level of income support that ensures a modest, comfortable standard of living, comparable to that provided by elderly benefits, Old-Age Security and the Guaranteed Income Supplement. In 2008 (Q4), the maximum OAS/GIS annual benefit for Canadian seniors with long-term residence in the country was $14,033.64. Only workers' compensation and private long-term disability plans meet this standard of adequacy, and these programs are inaccessible to most people with disabilities.

6 Data and Methodology

This study employs quantitative methodology to answer the research question: what are the key determinants of food insecurity among working-age Canadians with disabilities? It utilizes the micro-data file of the 2005 Canadian Community Health Survey (CCHS Cycle 3.1), a representative national cross-sectional survey administered by Statistics Canada. Starting in 2001, the CCHS is conducted every two years to collect data on the economic, social, demographic, occupational, and environmental correlates of health. The sample size for each survey cycle is approximately 130,000 Canadians. The CCHS surveys people over age 12 living in private dwellings in the ten provinces and three territories. This excludes full-time members of the Canadian Armed Forces, persons living on First Nations reserves or crown lands, residents of institutions, and residents of certain remote areas. The CCHS covers approximately 98 percent of the Canadian population aged 12 or older.

6.1 The Model

Based on a review of the literature, the following theoretical model is proposed for explaining food insecurity:

$$Food\ Insecurity = f\ (D + H + M + I + S)$$

where D is demographic characteristics including household type, aboriginal status and geographic location, H is health characteristics including type and severity of disability, M is main source of household income including employment and social

program receipt, I is level of household income, and S is other socio-economic determinants including home ownership status and level of education.

6.2 Dependent and Independent Variables

6.2.1 Dependent Variable

The dependent variable is food insecurity. In the 2005 CCHS questionnaire, the food insecurity questions were made consistent with the U.S. Department of Agriculture's model of Household Food Security Status Levels published in 2000. This model uses 18 food security questions to derive the summary measure of food insecurity Household Food Security Status. This variable indicates whether households were able to afford the food they needed in the previous 12 months and includes these four categories:

1. Food Secure: Household members show no or minimal evidence of food insecurity.
2. Food Insecure without Hunger: Household members feel anxious about running out of food or compromise on the quality of foods they eat by choosing less expensive options. Little or no reduction in the household members' food intake is reported.
3. Food Insecure with Moderate Hunger: Food intake for adults and the household has been reduced to an extent that implies that adults have repeatedly experienced physical sensation of hunger. In most (but not all) food insecure households with children, such reduction is not observed at this stage for children.
4. Food Insecure with Severe Hunger: At this level, all households with children have reduced the children's food intake to an extent indicating that

the children have experienced hunger. Adults in households with and without children have repeatedly experienced more extensive reductions in food intake.

(CCHS Derived Variable (DV) Specifications, p. 191; Nord et al., 2007, p.19).

To show the prevalence of food insecurity among individuals with particular characteristics, all four levels of food insecurity will be presented. For the regression analysis, the variable Household Food Security Status is recoded into a binary dependent variable with the categories food secure (category one above) and food insecure (categories two through four above).

6.2.2 Demographic Variables

The relationship between **age** and food insecurity is uncertain. Age could be positively correlated with food insecurity for several reasons. Food affordability is an important issue for seniors as they typically depend on fixed incomes from public and/or private pensions. Aging is also associated with physical and mental health deterioration that reduces the ability to access and prepare food. At the same time, tangible social support from a spouse or other family members may no longer be available. Conversely, a negative relationship between age and food insecurity is also quite possible. Due to labour force attachment requirements, young adults have less access to disability income programs including CPP-D, Long-term Disability, EI Sickness, and workers' compensation compared to older adults. They also have less financial capital including savings and assets compared to those who acquire disabilities later in life. Younger adults are also less likely to be married and thus to enjoy the associated financial benefits and tangible social

support. Age is measured an ordinal level variable with five categories: 18-25, 26-34, 35-44, 45-54, and 55-64.

Sex is a dichotomous variable with the categories male and female. Women with disabilities are expected to have higher rates of food insecurity than men with disabilities for several reasons. First, they are more likely to have activity-limiting disability including pain, mobility, and agility disabilities (Cossette and Duclos, 2002). Women with disabilities also have lower rates of labour force attachment, earn lower wages, are less likely to be employed in jobs with benefits, and are more likely to drop out of the workforce to raise children. For these reasons, men with disabilities are three times more likely to receive workers' compensation and about twice as likely to receive long-term disability benefits while women are more likely to be social assistance disability beneficiaries (Mustard, 2007). While some of these differences are controlled for in the model, others are not.

In terms of **province of residence**, British Columbia, Alberta, Ontario, Québec, Nova Scotia, and Prince Edward Island answered the food security supplement in 2005. Several factors could increase food insecurity among people with disabilities in certain provinces including higher than average unemployment rates (Nova Scotia, PEI) or greater costs of living (Alberta, British Columbia). The inclusion of province in the model will control for unmeasured differences across provinces in addition to those already included such as income levels, access to social assistance, and rural/urban geography.

As a binary variable, **Aboriginal status** is defined as North American Indian, Métis, or Inuit. Aboriginal people in Canada experience significant inequalities on virtually every socio-economic and health outcome measure. They

are also one of the five groups at-risk of persistent low income in Canada. Food insecurity is expected to be higher among aboriginal Canadians. By construction of the survey, on-reserve aboriginal residents are excluded from the sample, which includes only aboriginal people residing off reserves.

The four categories of the variable **household type** are living with spouse/partner, unattached individual, single parent, and other. Food insecurity is expected to be highest among single parents, who overwhelmingly tend to be women. This group, like people with disabilities, is highly susceptible to persistent poverty. Thus, the interaction of disability and single parenthood can cause a double disadvantage, especially for lone mothers. Unattached individuals are also expected to have high rates of food insecurity as they high have high rates of poverty in general and do not have the same tangible support as those living with family members.

Respondents' locations are split into the dichotomous variable **urban/rural**. The direction of this association is ambiguous. Food insecurity could be higher in rural areas for several reasons; food costs are higher and access to grocery stores is further away, more costly, and particularly difficult in winter months. In addition, fewer food charities exist in comparison to urban areas. However, in urban areas, housing costs can be much higher, leaving less of the household budget left over for food. Urban residents also have less ability to grow their own food and may be less likely to know and potentially help their neighbours if they are in need.

6.2.3 Socio-Economic Variables

The variable **distribution of household income (national)** is derived by Statistics Canada. It divides the entire CCHS sample into income deciles, providing a relative measure of each respondent's household income compared to the household incomes of all other respondents. This calculation is based on adjusted ratios of household income to the low-income cut-off (LICOs) corresponding to their household and community size. Food insecurity should be negatively correlated with the respondent's rank in the distribution of household income.

The categories for **main source of household income** are wages and salaries, Employment Insurance (EI), workers' compensation, C/QPP, social assistance, and retirement benefits. Food insecurity is expected to be lowest among those receiving wages/salaries, followed in ascending order by retirement benefits, workers' compensation, EI, and C/QPP. The highest rates of food insecurity are expected among people whose main source of household income comes from social assistance.

The relationship between social assistance and food insecurity is expected to persist even when controlling for income in the regression analysis. As explained above, social assistance or welfare is a program of last resort. Recipients must divest themselves of most assets and not be living in a family relationship with anyone else earning income. In contrast, employment insurance, C/QPP, and workers compensation payments are based on a stable employment history and recipients are permitted to own assets. Unlike social assistance, the eligibility unit is the individual rather than the household, and more entitlement and less social stigma is attached to receiving benefits.

In addition to income, **education** is the other main variable for socio-economic status. The four education categories are less than secondary school graduation, secondary school graduation, some post secondary education, and postsecondary degree/diploma. While those with less education should have a higher prevalence of food insecurity, this relationship is not expected to be significant in the multivariate analysis when controlling for income.

Home ownership, a binary independent variable, has been found in previous studies including Che and Chen (2001) and Rainville and Brink (2001) to correlate with food insecurity. **Renters** were more likely to report food insecurity when compared to homeowners even when controlling for income; similar findings are expected in the current study.

6.2.4 Health Variables

Crucial to the disability-food-insecurity model are key differences regarding the number, type, and severity of disability/disabilities. Yet in 2005, unlike previous years, the Health Status and Health Utility Index modules were optional content administered by only a few provinces. Therefore, a more limited set of health and disability variables are included in the model than would be optimal. The following three variables are the best available proxies for disability severity.

The variable **self-perceived health** asks respondents whether their health is excellent, very good, good, fair, or poor. As the best indicator of overall health status in the regression model, its reliability and validity are key to the robustness of the model. Reviewing the evidence on the reliability of self-perceived health, Statistics Canada found it to be as good or better than other health measures such as

chronic diseases, functional ability, and psychological well-being. Four-week test/re-test reliability measures were also found to be relatively high across diverse populations and more stable over longer periods than physicians' ratings (Shields and Shooshtari, 2001, p.35).

The construct validity of self-perceived health was also found to be high as it is strongly correlated with both physicians' ratings and other, more extensive health rating scales including the Short Form 36 Health Survey Questionnaire, the Sickness Impact Profile, and the Perceived Well-Being Scale (Shields and Shooshtari, 2001). Based on these findings, it is assumed that self-perceived health is a good proxy for actual overall health status and will have a negative association with food insecurity. The other key variable that aims to capture the severity of disability is **permanently unable to work**. This binary variable is derived by recoding responses to a question asking if the respondent worked at a job or business last week and if not, the reason they were not employed.

The binary variable **functional limitations** identifies those who due to a physical condition or mental health problem need assistance with the activities of daily living most associated with food access: meal preparation, getting to appointments/running errands, and moving around the house. It is expected that those who need help with these tasks will have a greater likelihood of food insecurity than those who do not because of limits on the ability to prepare food, go shopping for groceries, access their bank accounts, and the like.

Specific physical health conditions are measured with dichotomous variables that indicate whether the condition is present or not. Several variables are included for conditions that are potentially episodic including **chronic fatigue syndrome, repetitive strain injury, and respiratory ailments.** To differentiate

between physical and mental illness, the variable **cause of health problem - mental illness** is also included. Mental illness also tends to be episodic; the conditions included in this category are schizophrenia, depression, bipolar disorder, mania, dysthymia, and anxiety.

Two types of cognitive disabilities are included in the analysis, **learning disabilities** and **autism or other developmental disorder**. People with learning disabilities are expected to have higher rates of food insecurity as they are particularly susceptible to low income in Canada. In contrast, the impact of having autism or another development disorder (including Down's syndrome, Asperger's syndrome, or Rett syndrome) on food insecurity is less clear. While these individuals may have a reduced ability to take care of their basic needs, they often live in group homes, which should reduce their risk. Table 5 summarizes the hypothesized relationships between variables.

Table 5: Summary of Hypothesized Relationships

Independent Variable	Hypothesis Regarding Food Insecurity (FI)	Expected Sign
Demographic		
Age	Age could be positively or negatively associated with food insecurity.	?
Sex	Women will have higher FI than men.	+
Province	Those living in provinces with high unemployment (NS, PEI) or with higher costs of living (Alberta and BC) will have higher FI.	+
Aboriginal status	Aboriginal people with disabilities will have higher FI.	+
Household type	Single parents and unattached individuals will have the highest rates of FI. The lowest rates will be those living with a spouse.	+
Urban/Rural	This relationship could go in either direction.	?
Socio-Economic		
Distribution of household income – (national)	Household income will be negatively associated with FI.	-
Main source of household income	Receiving social assistance will increase FI the most, followed by C/QPP and then EI.	+
Education	When controlling for income, education will not have an impact on food insecurity.	N.S.
Renter	Renters will have higher odds of FI than homeowners.	+
Health Status/ Condition		
Self-perceived health	Self-perceived health will be inversely related to FI.	+
Permanently unable to work	Work limitations will be positively correlated with FI.	+
Has chronic fatigue syndrome	As potentially episodic conditions, people with these conditions will have higher rates of FI than those without.	+
Has repetitive strain injury		+
Has a respiratory ailment		+
Has autism or any other developmental disorder	This relationship could go in either direction.	?
Has a learning disability	Those with a learning disability will be more food insecure.	+
Cause of health problem – mental Illness	Mental health issues will be positively associated with FI.	+
		+
Has a functional limitation	Needing help with getting to appointments and errands, preparing meals and/or moving around the house will increase FI.	+
		+
		+

6.3 Target Population and Statistical Overview

The target population is restricted to people with disabilities aged 18 to 64 who were not living with their parents as dependants. Disability status is determined by the same criteria used in Statistics Canada's 2006 Participation and Activity Limitation Survey (PALS). Respondents are determined to have a disability if they have an activity limitation or a participation restriction due to a physical or mental condition or health problem. To be included in the sample, respondents must answer "sometimes" or "often" to one or more of the following questions:

1. Do you have difficulty hearing, seeing, communicating, walking, climbing stairs, bending, learning, or doing any similar activities?
2. Does a long-term physical condition or mental condition or health problem reduce the amount or the kind of activity you can do at home?
3. Does a long-term physical condition or mental condition or health problem reduce the amount or the kind of activity you can do at school?
4. Does a long-term physical condition or mental condition or health problem reduce the amount or the kind of activity you can do at work?
5. Does a long-term physical condition or mental condition or health problem reduce the amount or the kind of activity you can do in other activities, for example, transportation or leisure?

The target population is further narrowed to the six provinces of British Columbia, Alberta, Ontario, Québec, Prince Edward Island, and Nova Scotia, as they were the only provinces to administer the food insecurity supplement in 2005. These provinces contain approximately 80 percent of the Canadian population.

Statistical analyses were conducted with SPSS version 15.0. First, selected frequencies were used to assess the prevalence of food insecurity in households with specific demographic, health, and socio-economic characteristics and the severity of food insecurity experienced. Second, to understand the relative importance of the independent variables, multiple logistic regression was employed to estimate the contributions of the potential explanatory factors to the probability of food insecurity.

The survey sample was weighted to correct for under- or over-sampling of particular age or sex groupings using the population weights supplied by Statistics Canada. The sample was then rescaled back to its original size in order not to overestimate statistical significance. In logistic regression, observations with missing variables are automatically removed; therefore, several techniques were used to impute missing data. Variables with missing data of less than 5 percent were recoded into the mode for nominal or ordinal variables. The only variable with more than 5 percent missing was distribution of household income which was recoded using a multiple imputation technique whereby variables correlated with income (e.g. sex and education) were used to estimate the most likely category for each of the missing cases.

7 Results

7.1 Food Insecurity by Demographic, Health and Socio-Economic Variables

In 2005, 10.3 percent of working-age Canadians with disabilities lived in food insecure households. The most frequent level of food insecurity was food anxiety/quality reduction (5.7 percent), followed by moderate hunger (3.6 percent) and severe hunger (1.0 percent). These food insecurity rates were almost three times greater than for the non-disabled population who had an overall food insecurity rate of 3.5 percent.

As Table 6 shows, food insecurity was more prevalent in households with certain demographic and socio-economic characteristics.[4] Younger adults have higher rates of food insecurity than older adults; rates in the youngest age category (18-25) were over three times higher than in the oldest category (55-64). In terms of living arrangement, the prevalence is lowest for those living with their spouse (6.5 percent) and considerably higher for both unattached individuals (18.5 percent and single parents (25.9). Those who rented their home had food insecurity rates more than five times higher than homeowners (24.9 percent vs. 4.9 percent).

Over half or 51.3 percent of those who relied on social assistance were food insecure in 2005. Of this group, 22.9 percent experienced moderate food insecurity and 8.8 percent experienced severe food insecurity. The next highest rates were found among recipients of employment insurance (26.8 percent), C/QPP

[4] Frequencies not presented in this section are food insecurity by province, urban/rural status, and education; please see Appendix A for these tables.

(25 percent), and workers' compensation (19 percent).[5] The lowest rates of food insecurity were found among those receiving retirement pensions (3.4 percent), followed by wages and salaries (7.8 percent).

[5] While some of those reporting C/QPP as their main income source could be receiving the regular (non-disability) benefit if they were over 60 or living with someone who was, it seems the majority were referring to the disability. Similarly, EI could refer to general EI or EI sickness.

Table 6: Food Insecurity among Working-Age Adults with Disabilities by Select Demographic and Socio-Economic Characteristics, 2005

	Level of Food Insecurity (%)			Overall Food Insecurity
	Food Anxious/ Compromising Quality	Moderate Hunger	Severe Hunger	
All people with disabilities	**5.7**	**3.6**	**1.0**	**10.3**
Male (N=9402)	4.3	2.6	1.1	8.1
Female (N=10,337)	7.0	4.4	1.0	12.3
Age 18-25 (N=1192)	10.8	6.6	1.5	19.0
Age 26-35 (N=2793)	8.4	4.3	0.9	13.6
Age 36-45 (N=5008)	7.1	4.2	1.3	12.6
Age 46-55 (N=5933)	4.1	3.4	1.2	8.7
Age 56-64 (N=4814)	3.3	1.8	0.6	5.8
Aboriginal person (N=560)	7.3	8.9	3.6	19.8
Living with spouse/partner (N=12,180)	4.3	1.8	0.4	6.5
Unattached individual (N=3,241)	8.5	6.9	3.1	18.5
Single parent (N=850)	11.1	12.0	2.8	25.9
Wages and salaries (N=13,059)	44.9	2.3	0.6	7.8
EI (N=164)	16.5	6.7	3.7	26.8
C/QPP (541)	10.7	11.8	2.4	25.0
Social assistance (N=891)	19.6	22.9	8.8	51.3
WCB (232)	-	-	-	19.0
Retirement pension (1160)	-	-	-	3.4
Homeowner (N=13,712)	3.1	1.4	0.4	4.9
Renter (N=3.995)	12.7	9.4	2.8	24.9

N=19,741
Sample includes adults between 18 and 64 living in Ontario, Québec, British Columbia, Alberta, Nova Scotia, and PEI who were not living with their parents as dependants.
Results are weighted to the Canadian population and rescaled to original sample size.
Empty cells indicate that at least one cell in the row had a count less than five.
Due to rounding, the levels of food insecurity may not add up to the overall rate.

At 40.3 percent, the prevalence of food insecurity in the first income decile was four times higher than the average of 10.3 percent (See Table 7).[6] The prevalence in next two deciles was also high at 20.0 percent and 12.1 percent respectively. Those with household incomes ranging from the fourth to the tenth decile had below average rates of food insecurity that fell consistently with each increase in income.[7]

Table 7: Food Insecurity among Working Age Adults with Disabilities by Distribution of Household Income (National), 2005

	As % Of This Population	Overall Food Insecurity (%)
Income Decile 1	11.0	40.3
Income Decile 2	9.9	20.0
Income Decile 3	7.6	12.1
Income Decile 4	10.5	9.1
Income Decile 5	8.6	6.9
Income Decile 6	16.6	5.6
Income Decile 7	8.1	2.8
Income Decile 8	9.1	1.9
Income Decile 9	9.0	0.5
Income Decile 10	9.6	0.4

N=19,741
See notes to Table 6.

Those who reported poorer health status had considerably higher rates of food insecurity. For self-perceived health, only 7.6 percent of those who rated their health as good to excellent were food insecure in 2005, compared to 16 percent of those reporting fair health and 25.1 percent of those reporting poor health. Those who are permanently unable to work had a food insecurity rate very similar to those who reported poor health (24.3 percent) while the rates for functional limitation

[7] Levels of food insecurity could not be reported for the variable distribution of household income (national) due to the minimum cell count requirements of the Statistics Canada Research Data Centre.

were just slightly lower at 20 percent. Of those who reported poor health and the inability to work (many are probably the same respondents), about 10 percent had moderate hunger and about 4 percent had severe hunger.

Table 8: Food Insecurity among Working-Age Adults with Disabilities by Indicators of Disability Severity, 2005

	Level of Food Insecurity (%)			Overall Food Insecurity
	Food Anxious/ Compromising Quality	**Moderate Hunger**	**Severe Hunger**	
Self-perceived health				
Good to excellent (N=14,907)	4.6	2.4	0.6	7.6
Fair (N=3,359)	8.3	5.9	1.9	16.0
Poor (N=1476)	11.4	10.1	3.6	25.1
Permanently unable to work (N=1266)	10.5	9.6	4.3	24.3
Has a functional limitation (N=2713)	9.4	7.8	2.8	20.0

N=19,741
See notes to Table 6.

Specific health conditions with similarly high food insecurity rates were chronic fatigue syndrome (23.7 percent), respiratory illness (20.6 percent), and having a learning disability (27.0 percent) (See Table 9). The rates for autism and repetitive strain injury were lower at 12.4 percent and 16.2 percent respectively. Mental health issues were also strongly correlated with food insecurity with a prevalence of 23 percent.

Table 9: Food Insecurity among Working-Age Adults with Disabilities by Selected Health Conditions, 2005

Health Conditions	Level of Food Insecurity (%)			Overall Food Insecurity
	Food Anxious/ Compromising Quality	Moderate Hunger	Severe Hunger	
Has chronic fatigue syndrome (N=767)	9.9	10.0	3.8	23.7
Has repetitive strain injury (N=4021)	6.5	4.7	1.2	12.4
Has a respiratory illness (N=1288)	10.2	7.6	2.8	20.6
Has a learning disability (N=949)	12.3	11.0	3.7	27.0
Cause of health problem - mental illness (N=883)	10.1	10.1	2.7	22.9
Has autism/ developmental disorder (N=74)	-	-	-	16.2

N=19,741
See notes to Table 6.

7.2 Regression Results

A logistic regression analysis was used to determine the relative importance of each independent variable in contributing to the likelihood of food insecurity while controlling for the remaining variables in the model. The model is statistically significant with a model chi-square of 3680.8 (df=44, $p<0.01$). The complete regression results are presented in Table 10, which shows that all of the variables discussed in this section are statistically significant at the 0.01 level.

The critical role of income in determining the likelihood of food insecurity is confirmed by the regression findings. In 2005, those in the first income decile were 58.8 times more likely than those in the tenth decile to be food insecure; those in the second and third lowest income deciles were 33.7 and 21.4 times more likely respectively. Because income is such a strong determinant, several other variables are not statistically significant in the regression including aboriginal status, most

provinces of residence, education, and the variable permanently unable to work. This indicates that the high prevalence of food security among those with these characteristics is due to their influence on income and other statistically significant variables in the model.

Most hypotheses regarding source of household income are confirmed by the regression. Households depending on social assistance were 2.5 times more likely to be food insecure while the odds ratios (ORs) for households depending on EI and C/QPP are also high at 2.088 and 1.978 respectively. Surprisingly, an increased likelihood of food insecurity is found among those whose main source of income is wages and salaries (OR=1.308). This could reflect the marginal position disabled employees often hold in the labour force and their sensitivity to economic cycles. Receiving retirement benefits was not statistically significant.

As has been found in previous studies on food insecurity, home ownership is an important determinant with renters 2.2 times more likely to be food insecure compared to those who own their own home. Home ownership represents an asset that yields income in-kind, in the form of monies saved that would otherwise have to be spent on rental payments; just like having more money income, this reduces the incidence of food insecurity.

In terms of demographic factors, the regression results confirm that gender, living situation, and age affect the likelihood of food security, even when controlling for income and other determinants. Women were slightly more likely to be food insecure than men (OR=1.268) and compared to those living with their spouse, single parents and unattached individuals were 1.5 and 1.3 times more likely to be food insecure respectively. A negative, statistically significant relationship is found between age and food insecurity. Compared to the reference

category (age 55-64), those in the 18-24, 25-34, and 35-44 age categories were all about three times more likely to be food insecure. At 1.9, these odds are reduced but still considerable for those in the 45-54 age category.

Regarding geography, the relationship between province and food insecurity was not statistically significant except for Québec when controlling for some of the differences between province including household income, social assistance access and rates, and rural/urban geography. The likelihood of experiencing food insecurity was decreased for Québec residents (OR=0.602). The reasons for this are unclear, although it does have a much lower disability rate than the other provinces. Urban residents were more food insecure than rural residents, with an odds ratio of 1.299.

Not all health status variables are statistically significant when controlling for income and other determinants. While the variables "has a functional limitation" and "self-perceived health" are significant, the variable "permanently unable to work" is not. Those who need help with meal preparation, running errands, or moving about the house were slightly more likely to be food insecure (OR=1.245) indicating that income and living situation accounts for some but not all of their high food insecurity rates. Compared to those who rated their health as good or excellent, people with disabilities who reported fair or poor health had higher likelihoods food insecurity, 1.5 and 1.9 times respectively. This result could reflect endogeneity in the model, in that those who are food insecure may be more likely to rate their health as fair or poor for that reason and its associated health outcomes.

The variables representing potentially episodic disabilities – repetitive strain injury, respiratory illnesses, chronic fatigue syndrome, and mental illness –

increased the likelihood of food insecurity with odds ratios of 1.409, 1.519, 1.274, and 1.438 respectively. Having a learning disability also increased the likelihood of food insecurity (OR=1.509), while having autism or another developmental disability was not statistically significant.

In order to test the robustness of the model and account for the possible endogeneity of the self-perceived health status variable, a sensitivity analysis was undertaken. Three additional regressions were run each including only one of the disability severity measures: self-perceived health status, permanently unable to work, and has a functional limitation. The results, shown in Appendix B, demonstrate that the model is robust. Income remained the primary determinant of food insecurity in all three models; the odds ratios of those in the first decile compared to the tenth ranged from 59 to 64, as compared to 58 in the first model. The rest of the variables maintained their level of significance with very similar odds ratios.

Table 10: Adjusted Odds Ratios of Determinants of Food Insecurity Among Working-Age Adults with Disabilities

Explanatory Factor	B	Adjusted Odds Ratios - Exp (b)
Aboriginal	0.021	1.021
Female (Male ref)	0.237**	1.268
Age		
18-25	1.017**	2.765
26-34	1.110**	3.035
35-44	1.061**	2.889
45-54	0.640**	1.895
55-64 (ref)	-	-
Living With Spouse (ref)	-	-
Unattached Individual	0.294**	1.342
Single Parent	0.403**	1.496
Other	0.081	1.085
Ontario (ref)		
Québec	-0.508**	0.602
Nova Scotia	0.084	1.088
PEI	-0.219	0.803
Alberta	-0.105	0.901
BC	0.041	1.041
Rural (ref)		
Urban	0.261**	1.299
Post-secondary graduation (ref)	-	-
Less than secondary school graduation	0.151	1.163
Secondary graduation	-0.60	0.942
Some post-secondary	-0.023	0.977
Repetitive strain injury	0.343**	1.409
Respiratory illness	0.418**	1.519
Learning disability	0.411**	1.509
Chronic Fatigue Syndrome	0.242**	1.274
Autism or other developmental disorder	-0.489	0.614
Cause of health problem - Mental Illness	0.363**	1.438
Self-perceived health - Good/ Excellent (ref)		
Fair	0.429**	1.535
Poor	0.660**	1.935
Permanently Unable to Work	-0.061	.941
Has a functional limitation	0.219**	1.245
Main income source – Wages	0.269**	1.308
Main income source – C/QPP	0.682**	1.978
Main income source – EI	0.736**	2.088
Main income source – WCB	0.527**	1.694
Main income source - Social assistance	0.924**	2.518
Main income source – retirement	-0.104	.901
Renter	0.785**	2.192
Adjusted Income Deciles		
10th Decile (ref)	-	-
1st Decile	4.074**	58.790
2nd Decile	3.516**	33.654
3rd Decile	3.062**	21.381
4th Decile	2.877**	17.758
5th Decile	2.638**	13.979
6th Decile	2.511**	12.323
7th Decile	1.736**	5.677
8th Decile	1.463**	4.318
9th Decile	.118	1.126

** indicates 1% and 5% levels of significance respectively
N= 19,741; 17,707 for dependent var. = 0; 2034 for dependent var. = 1.

7.3 Major Findings and Implications for Policy Reform

The determinants of food insecurity and their relative importance should be taken into account when designing effective social programs, including aspects such as targeting and eligibility. Key findings from the data analysis are as follows.

- *Disability status is a strong indicator of food insecurity in Canada.*

At 10.3 percent, rates of food insecurity among working-age people with disabilities were almost three times greater than those without disabilities in 2005. Among the disabled population, one in ten had some form of food insecurity, four in 100 had moderate hunger, and one in 100 had severe hunger. These results confirm that food insecurity among working-age adults with disabilities should be of considerable concern to Canadian policymakers.

- *Income is the primary determinant of food insecurity, and therefore, groups at high risk of low income are also at high risk of food insecurity.*

Those in the lowest income decile were almost 59 times more likely to be food insecure than those in the highest decile when controlling for other determinants. Because of this strong relationship, many of the same groups found at risk of persistent low income in other studies (living below the low-income threshold (LICO) for six consecutive years) were also food insecure in 2005 including aboriginal people, lone parents, unattached individuals, and social assistance recipients. The LICO indicates the income level below which a family is likely to spend significantly more of its income on food, shelter, and clothing than

the average family. While there is debate in Canada about how well the LICO, as a relative measure of poverty, represents actual material deprivation, these results indicate that moderate and severe hunger is a reality for many people with disabilities. Moreover, given their significant personal and societal barriers to earning market incomes, income transfers will continue to play a key role in addressing food insecurity among this population.

- *The highest rates of food insecurity are found among social assistance recipients, followed by CPP and EI.*

Social program receipt is an important indicator of food insecurity, with the highest rates found among social assistance recipients. Over half of social assistance recipients and one-quarter of CPP and EI recipients were food insecure in 2005, indicating benefits below the level needed for food security.[8] Even when controlling for income, those relying on social assistance, EI, or CPP have a higher likelihood of being food insecure than those who do not. These findings could reflect that the experience of low income is more permanent for those relying on social programs and more transitory for those relying on other income sources. The latter group may also have savings and assets to help offset food insecurity during periods of low income. This finding could also reflect the importance of non-monetary factors associated with social program receipt including social exclusion that can reduce the ability to rely on others for assistance.

- *The distribution of food insecurity severity is similar across groups, except for those who are very food insecure.*

[8] As noted in the results section, most but not all of those reporting CPP as income would be referring to the disability benefit.

For most demographic, health, and socio-economic characteristics, the majority of food insecure respondents reported quality reduction/anxiety, a smaller percentage reported moderate hunger, and an even smaller percentage reported severe hunger. The exception was groups for whom the prevalence of food insecurity was about 20 percent or more. For these very food insecure groups, including aboriginal people, social assistance recipients, and single parents, the rates of moderate hunger were similar or higher than the rates of quality reduction/food anxiety. This indicates that targeting groups with the highest rates of overall food insecurity will also target those at greatest risk for hunger.

- *Younger adults are more likely than older adults to be food insecure.*

The increased risk of food insecurity faced by younger adults corroborates the background section findings, which suggests the exclusion of this group from much of Canada's disability income system is problematic. The theoretical and practical significance of this finding is considerable. In the social science literature, it is widely assumed that food insecurity increases with age. While this may true for the non-disabled population, it is not for people with disabilities.

Therefore, in terms of policy and program design, younger adults should be of particular concern. As noted, the onset of a disability early in life can have important repercussions. Younger adults whose disabilities severely limit or preclude work may never have the opportunity to gain eligibility for any disability income program except for social assistance. Once on social assistance, their chances of acquiring financial, human, and social capital – already reduced due to disability – are further constrained by very low benefit rates, asset and earnings restrictions, limits on living with others, and the high social stigma that comes from welfare receipt. Living on social assistance for extended periods also has huge

health implications; over half were food insecure in 2005, with moderate and severe hunger comprising 23 percent and 9 percent of this total respectively.

- *People with episodic conditions are at increased risk of food insecurity.*

Notably, many of the highest rates of food insecurity were found among people whose disabilities are likely to be episodic including respiratory conditions, mental health issues, chronic fatigue syndrome, and repetitive strain injury. This indicates that episodic disabilities may severely reduce financial security even if they do not meet the "prolonged" definition of disability used by the majority of disability income programs.

- *People with mental health issues and learning disabilities are at increased risk of food insecurity.*

Working-age people with mental health issues and learning disabilities are at increased risk of food insecurity and therefore likely to be in need of income security benefits. As lack of information and transaction costs may constitute considerable barriers for these groups, the accessibility of the benefit application process should be considered.

7.4 Survey Limitations

Use of the CCHS data in examining the disability-food insecurity relationship has four main limitations. First, the survey sample underestimates food insecurity by excluding people with disabilities who are homeless and aboriginal people living on reserves, populations at particular risk of food insecurity.

Second, the food insecurity supplement was not asked in Saskatchewan, Manitoba, Newfoundland and Labrador, New Brunswick, and the territories, preventing generalization of the results to residents of these areas. While the determinants of food insecurity in the included and excluded provinces are probably very similar, the rates of food insecurity may be considerably higher in the territories due to more costly food prices and transportation challenges. In addition, Manitoba and Saskatchewan are two Canadian provinces with the highest proportions of aboriginals in their total populations, living both on reserves and in urban areas.

Third, several important variables were excluded from the CCHS altogether or not asked in the same provinces that administered the food insecurity supplement. Health questions omitted include those asking directly about disability severity, type of disabilities, and the episodic or continuous nature of the condition. Furthermore, since the data measured income but not consumption/expenditures, it excluded other important factors that influence the food budget including cost of living and disability-related expenditures.

Fourth, as a cross-sectional analysis, this study cannot differentiate between short-term and persistent food insecurity. Since many periods of low income are short-term in Canada, they may not have as marked an impact on long-term health or well-being as persistent low income/ food insecurity, with the latter being of greatest concern to policymakers. Conversely, for a large proportion of the disabled adult population in Canada, low income is a relatively long-term condition. Future research identifying determinants of persistent food insecurity among working-age people with disabilities may be helpful for further tailoring of policy responses.

8 Policy Alternatives

8.1 Policy Alternative I: The Status Quo

The main elements of Canada's current disability income system were described in section five. Its inclusion as the status quo alternative provides a benchmark for comparing the following three options.

8.2 Policy Alternative II: Refundable Disability Tax Credit (RDTC)

The current Disability Tax Credit (DTC) recognizes that people with disabilities have increased costs and decreased tax-paying capacities due to their condition. As a tax credit, it subtracts a particular amount (specified by Finance Canada) from income tax that is otherwise payable each year. This option would turn the current DTC into a refundable disability tax credit (RDTC), providing a benefit to those without income tax payable.

In 2008, the amount of the DTC was 15 percent of $7,021, providing a federal tax reduction of up to $1,053.15 for the disabled individual or a relative designated by him or her. The combined value of the federal and provincial disability tax credits differs according to province; in 2005, it ranged from $1,366 in Nova Scotia to $1,715 in Saskatchewan.

To be eligible for the DTC, individuals must meet the following criteria:

- Have a *severe* and *prolonged* mental or physical *impairment*;

- As a result of that impairment, be *markedly restricted all or substantially all of the time* in their ability to perform a *basic activity of daily living*, or would be markedly restricted were it not for extensive therapy to sustain a vital function; and
- File with the Canada Revenue Agency a form T2201, *Disability Tax Credit Certificate* that has been completed by a qualified practitioner certifying that they meet the first two requirements (emphasis in original, Department of Finance, December 2004, p.25).

Currently the DTC is non-refundable; it reduces the amount of income tax owed. It can be transferred to a spouse, parent, or caregiver, but this is only a benefit if an eligible person is available with sufficient taxable income. Those whose incomes are so low that they do not pay tax do not receive any benefit. Under this option, eligible individuals would receive the full amount as a cash benefit or a reduction in taxes owing, even those without any earnings or income tax payable. Since the credit is indexed to inflation, the amount would increase over time reflecting cost-of-living increases.

Of the 850,000 working-age adults in Canada with severe or very severe disabilities, about 140,000 receive the DTC (Mendelson et al., forthcoming, p. 4). Since the current eligibility criteria would remain in effect under this option, it would automatically exclude a portion of those with severe or very severe disabilities whose conditions are episodic or whose ability to perform an activity of daily living is not deemed to be in effect "all or substantially all" of the time.

8.3 Policy Alternative III: National Basic Income (BI) Program

This option would create a new income-tested federal Basic Income program for people with severe disabilities. It would provide long-term support with no time limit to those who cannot reasonably be expected to earn most of their income through employment. The benefit level would be equivalent to the maximum Old Age Security and Guaranteed Income Supplement benefit (OAS/GIS) for low-income seniors. This Basic Income would be delivered through the tax system and funded through general revenues. It would provide a non-stigmatizing replacement for welfare as the majority of beneficiaries would be those currently on social assistance.

A federal-provincial working group on disability income recommended a similarly designed program in 1987 (Mendelson et al., forthcoming, p. 2). The essence of this proposal has also been suggested by Modernizing Income Security for Working Age Adults (MISWAA), a high-profile Ontario-based coalition including the chief economists of TD and Scotia Banks, academics, policy analysts and community groups. MISWAA also implies that some provinces have proposed a similar policy by saying it "supports the proposal being advocated by Ontario and several other governments that the federal government should deliver a national disability income support program to [people with severe disabilities]" (MISWAA, 2006, p.34). In addition to the deficiencies of the welfare system for people with disabilities (detailed earlier in their report), MISWAA provides the following rationale for this type of proposal:

> The federal government has long experience delivering benefits to people living with similarly substantial disabilities, e.g., through its disability tax credit and CPP. A social assistance program like [Ontario's], with its monthly reporting requirements, is designed to

> be responsive to changing incomes and needs. It is the wrong vehicle for delivering benefits to people whose income and circumstances do not change. The federal government could easily income test potential beneficiaries of a long-term income support program. Asset testing would not be necessary for people who are in no position to obtain and expend assets. Finally, people with long-term disabilities are living much longer. Being on long-term support would facilitate their making the transition to OAS when they reach 65 years of age (MISWAA, 2006, p.34).

The Caledon Institute of Social Policy has proposed specific program details for a Basic Income program for working-age adults with disabilities (See Table 11). It recommends a design similar to the Seniors Benefit proposal of 1996 rather than the complex mixed clawback/income test in the current OAS/GIS (Battle et al., 2006; Mendelson et al., forthcoming). Since benefits would be delivered through the tax system, earned income in excess of a $1,200 exemption would be retrospectively clawed back at a rate of 50 percent, as is currently the case for GIS. This time lag is not considered problematic because, like seniors, the incomes of most recipients are relatively stable over time. In cases where two spouses have disabilities, the benefit would be tested against the joint income of couples. Caledon also proposed allowances for dependants and northern/remote residents.

Table 11: The Design of a Basic Income Program for Working-Age Canadians with Disabilities

Key Elements of a Basic Income (BI) Program	**Annual Values**	**Explanation**
Income-tested maximum Basic Income benefit for a single person	$13,021*	$13,021 is the maximum Old Age Security/Guaranteed Income Supplement (OAS/GIS) benefit.
Percent of 2 single benefits to which an eligible couple is entitled	81%	81.06 percent is the percent of 2 single maximum OAS/GIS benefits paid to a couple both of whom are 65+.
Allowance for each dependent under 18	$2,406	$200.47 per month is the maximum dependent allowance in CPP/D.
Reduction rate on the Basic Income as income from other sources increases	50%	50 percent is the reduction rate in GIS.
Exempt earned income	$1,200	Income disregard before reduction rate is applied
Northern and Remote allowance (per household member)	$1,680	$140 per month is the Northern Allowance for a single person in ODSP.

Adapted from Mendelson et al. (forthcoming, p. 8).
*This amount is currently $14,033.64 (Q4 2008).

Provinces and territories would save considerably under this policy option because a large portion of their welfare caseloads would move to the federally funded Basic Income program. Caledon and disability advocacy groups have proposed that the savings be reinvested into a separate disability support program which would provide a comprehensive set of employment and living supports, a top priority for disability organizations in Canada and a need gaining traction among federal and provincial governments.

The foundation of the program would be a refundable disability tax credit (DTC) set at the maximum level ($1,715) – in effect, policy alternative II. Caledon envisions that initially the current eligibility criteria of having a severe and permanent disability would remain, and it could initially be restricted by age to

people over 55 years old. As the program proves financially and administratively sound, the program would be expanded to younger age cohorts and those who do not meet the current definition, such as those with severe episodic disabilities. The Caledon researchers acknowledge that the Basic Income program would need to enforce rigorous eligibility standards to avoid trade-offs against lower benefit levels and to control the program's financial costs.

8.4 Policy Alternative IV: Include Partial Disabilities in CPP-D

The federal CPP disability benefit (CPP-D) is the only national insurance plan available to almost all Canadian workers including the self-employed. It applies a strict definition of disability that requires the condition to be severe and prolonged in order to contain program costs and ensure benefit targeting to individuals with the most limited ability to work. Yet this criterion excludes other working-age people with disabilities who have made the requisite contributions and whose need for financial support may be just as convincing (e.g. people with mental illness, multiple sclerosis, cancer, and HIV/AIDS as well as the episodic conditions included in the regression model).

This policy option would include partial disabilities in the CPP disability benefit by changing the definition of functional impairment used for program eligibility. The broadened definition would include people whose condition(s), though not severe and prolonged, substantially decrease their ability to support themselves through employment. This includes conditions that are severe but episodic, and conditions that while not severe enough to preclude employment completely, reduce earnings sufficiently that government income supplementation is needed. The inclusion of partial disabilities within CPP-D would "represent a

basic change to the CPP program and legislation – a movement away from the all or nothing nature of this program towards a functional approach to disability" (Prince, 2008, p.18).

This option is not without significant international precedent. While partial disabilities are not included in the Canada and Québec programs, the majority of European systems do. The definition of partial disabilities typically used is 30-60 percent reduction in work or earnings capacity (OECD, 2003). Provincial workers' compensation programs also have "considerable experience with administering distinctions of partial and total disability and short- and long-term incapacities" (Prince, 2008, p.16). Both of these sources could provide lessons for the new program.

The design of the new partial disability benefit would retain most of the main characteristics of the current CPP disability benefit. It would be self-financed through compulsory social insurance premiums on employers and employees for those who meet a minimum level of earnings in three of the last six years. It would also be taxable and indexed to inflation. Applicants would still need to undergo an extensive health assessment in order establish the impact of their disability/ disabilities on their ability to work.

The benefit calculation formula and other key design aspects could borrow from models in other jurisdictions such as Sweden (as detailed by Hurt, 2007). While its disability program was universal before 1999, recent reforms have shifted to a contributory-based system in order to curb rising beneficiary caseloads. Sweden's disability system has four disability status categories, one full benefit, and three partial benefits, which are evaluated based on lost earnings capacity. To qualify for one of the partial benefits, an individual's earnings/work capacity must

be reduced by 25 percent, 50 percent, or 75 percent. Work incapacity of 80 percent or more entitles the beneficiary to a full benefit.

The calculation of the partial rates takes the full benefit rate and multiplies it by 25, 50, or 75 percent. Like the current CPP disability benefit, recipients of Sweden's full benefit are not permitted to undertake any significant work. Recipients of partial benefits are allowed to earn the equivalent of their capacity reduction; for example, people whose earnings capacity is 75 percent are permitted to earn up to one-quarter of their pre-disability income with the remaining clawed back. This program has been found to encourage work, relative to programs that have more partial disability categories like the Netherlands (Hurt, 2007).

Since unlike the current system, many program beneficiaries would combine benefits and employment income, work incentives would need to be incorporated into the program design. Some measures to encourage the return to work have already been incorporated into CPP-D over the last decade including automatic reinstatement of benefits for individuals whose attempts to return to work fail, vocational rehabilitation services, and an earnings exemption provision. The challenge, inherent in the design of most income support programs, would be to encourage work by ensuring that beneficiaries are better off working than not working while still ensuring that a sufficient level of income is provided to those who can work only marginally.

Since partial disabilities can fluctuate in their severity and length, a reassessment system would need to be implemented. In Sweden, a temporary full or partial benefit can be awarded in anticipation of a 1-3 year reduction in work capacity; the condition is reassessed after this period has elapsed. Those considered able to return to work continue to receive benefits for the first three

months of employment. After this period, individuals returning to work have the ability to resume benefits for up to two years, in case their condition returns (Rae, 2005, referenced in Hurt, 2007, p.19).

Table 12: Main Design Features of Proposals to Reform Canada's Disability Income System

	Alternative 2: RDTC	**Alternative 3: Basic Income**	**Alternative 3: Partial Disabilities in CPP-D**
Program Eligibility and Definition of Disability	All working-age Canadians with severe and prolonged disabilities	All working-age Canadians with severe disabilities	Employed and self employed whose condition reduces the ability to work by 25-75 percent for at least 1-3 years.
Administration	Federal government (Canada Revenue Agency) alone or with cooperation of the provincial governments	Federal government	Federal department of HRSDC through CPP program, provinces would have option to create a similar but separate plan
Labour Force Attachment	None	None	Minimum CPP contributions made in 3 of last 6 years
Benefit Level/ Income Replacement Rate	$1,366-$1,715 annually indexed (2005 figures, depending on province)	$14,033.64 annually, indexed, same as maximum OAS/GIS	25-75 percent of full CPP-D benefit E.g. Using the average 2005 benefit rate of $9,300; partial benefits could range from $2.325 - $6,975 annually
Benefit Duration	Ongoing	Ongoing	1-3 years, then reassessed Upon reassessment, benefits may be upgraded, downgraded, or discontinued

8.5 Other Potential Responses to Food Insecurity

8.5.1 Food Banks and Community Food Programs

The primary response to food insecurity in Canada has come from non-profit community organizations in the form of food banks. Food banks have proliferated since the first one was established in 1981 in response to a recession; as of 2005, there were 550 food banks across Canada utilized by 841,640 Canadians (Tarasuk, 2005, p.300). Typically operated without government funding, food banks rely on volunteer labour, food donations, and donated equipment and facilities.

Although they serve a current need, food banks are not a complete or satisfactory solution to food insecurity. First, the food supplied is generally of a low nutritional quality. Second, demands for food assistance far exceed the available supply. Most food banks permit clients to access assistance only once a month and/or have decreased the amount of food in each basket as demand has surpassed supply. Third, national surveys demonstrate that only 20 percent to 35 percent of food insecure households use charitable food programs; other coping mechanisms are more frequently used including decreasing food quality and skipping meals (Tarasuk, 2005, p.305). Fourth, as a stigmatized form of charity, food banks do not promote social inclusion of their clients. Lastly, even food bank users still experience food deprivation; in a Toronto study of families using food banks, 57 percent reported some level of absolute food deprivation from skipping or reducing the size of meals to going entire days without eating in the previous month (Tarasuk, 2005).

Other small-scale responses to food insecurity include community kitchens, hot lunch programs in public schools, meals on wheels programs for the elderly, food-buying clubs, and nutrition education programs. These community development programs are typically run by public health departments or community service organizations. Although the food provided by these programs may be more nutritious and the approach more participatory and inclusive, the time-limited and project-based funding means that they are also not a satisfactory solution to food insecurity.

8.5.2 A US-Style Food Stamp Program

In social program design, the most fundamental choice is between providing in-kind benefits (which refer to direct public provision or vouchers) and cash transfers (which include tax-based benefits). Thus, another potential approach to addressing food insecurity among people with disabilities is the public provision of food vouchers to those most at-risk. Among high-income countries, the US Food Stamp Program is the most prominent example of this type of program.

In-kind programs are often considered more appropriate for providing a minimum threshold of a specific good or service needed for basic standards of living because cash transfers will always result in a portion being spent on goods and services besides food (Kesselman, 2006). In contrast, in-kind benefits are able to ensure "that beneficiaries consume particular goods or services that they might not otherwise purchase in sufficient quantities or qualities to meet the preferences of policymakers" (pg. 6). Nevertheless, the significant drawbacks of in-kind food programs for addressing food insecurity among people with disabilities are the reason why they were excluded as a policy option.

Food stamp programs experience many of the same drawbacks as social assistance. Since beneficiaries use a different form of payment for groceries than the rest of the population, they promote the stigmatization of users. This is especially problematic for people with disabilities, a population that has been historically segregated and remains vulnerable to social exclusion. Because of stigma, and other barriers associated with direct delivery programs including transaction costs and lack of information, food stamp programs have low take-up by the eligible population. In Minnesota, only 59 percent of eligible households participated in the program due to these barriers (Kaiser, 2008). Social inclusion and autonomy are currently the foremost objectives of disability policy in Canada. For example, the annual federal report on disability issues is entitled "Advancing the Inclusion of People with Disabilities" (HRSDC, 2006). For these reasons, an in-kind food program is not an appropriate approach to the policy problem.

Furthermore, over ten years of US research on the relationship between Food Stamp program participation and food insecurity has failed to demonstrate a positive impact (Wilde, 2007). In 2004, 18.6 percent of participants had food insecurity with hunger compared to 10.1 percent of eligible non-participants, a relationship that remains significant even when controlling for other factors. These results reflect a strong selection bias, as the most food insecure households tend to apply for food stamps. Yet when this endogeneity was statistically controlled, Food Stamp Program participation had no impact on food insecurity (Gunderson and Oliveira, 2001). The reasons for this have not been determined conclusively, although Kaiser (2008) suggests that the low levels of food stamps provided are an important factor.

8.5.3 Employment Opportunities and Disability Supports

In addition to income policy reform, two other key areas of policy reform are prioritized by disability analysts and advocates – employment opportunities and disability supports in the form of assistive goods and services. Yet reforms in these areas should be in addition to, not a replacement for, an adequate income security system. Even with significant improvements in employment and supports, a segment of disabled adults will remain unable participate in the labour market, whether on a temporary, episodic, or permanent basis. Another segment will need partial benefits due to insufficient earnings. Only a base foundation of government income transfers will improve food security comprehensively for working-age people with disabilities, as has been accomplished with the senior population over the past few decades.

9 Criteria and Measures for Policy Evaluation

Four criteria are used to evaluate which policy option would best reduce food insecurity among working-age people with disabilities – effectiveness, budgetary cost, equity, and administrative feasibility. This section describes how these criteria are defined and measured.

9.1 Effectiveness

Adequacy. This aspect of the effectiveness criterion measures whether the policy option would provide a level of income support high enough to substantially decrease food insecurity among the target population. The ineffectiveness of incomes below $9,999 is evidenced by the finding that over 50% of social assistance recipients are food insecure at a national average benefit rate of $9,796. The amount proposed for adequacy is $14,033, the current maximum OAS/GIS benefit. The effectiveness of this figure is supported by the CCHS data; only 5 percent of seniors with disabilities (aged 65 and over) whose main source of income is OAS/GIS were food insecure in 2005. This prevalence is 50 percent lower than the average food insecurity rate of working-age adults with disabilities in general (10.3 percent) and 90 percent lower than that of social assistance recipients (51.3 percent). While there is some evidence that seniors have lower food costs due to smaller appetites, they may also have increased costs in other

areas such as medication; therefore, this amount is still considered a good general benchmark.[9]

Accessibility to Target Population. Take-up is an important measure of a program's accessibility as it gauges the extent to which a program is reaching its target population. The take-up rate is calculated by dividing the current number of beneficiaries by the eligible population. In this study, the take-up rate is inferred due to difficulties in estimating how many people would be eligible for a proposed program and how many of those would apply. It is based on an assessment of whether three main factors known to reduce take-up rates – stigma, transaction costs, and lack of information/transparency – are inherent or suggested by the program's design (Currie, 2006).

Includes At-Risk Groups. This criterion measures whether the option would meet the needs of people with disabilities who are at particular risk of food insecurity due to their current ineligibility from most disability income programs. In particular, the criterion assesses whether the option would target: 1) persons with episodic conditions; and 2) persons with low or no labour market attachment who are eligible only for social assistance at present.

9.2 Budgetary Cost

Net Cost to the Federal and Provincial Governments. This criterion compares the change in the net cost to government (federal and/or provincial) of each policy option in comparison to the status quo. In absolute terms, all of the options are quite costly; therefore, the assessment of high, medium, or low is based

[9] In-kind disability-related goods and services including extended medical coverage would need to be provided separately in order for this amount to be adequate. Untying the receipt of these goods and services from income benefits is also considered desirable for increasing work incentives.

on the relative cost of the option in relation to the other alternatives presented. Budgetary cost considers the expected numbers of eligible recipients multiplied by the amount of benefits paid, minus costs that are shifted between different government programs or levels of government. As such, it does not consider whether one level of government gains at the expense of the other. Since the issue of intergovernmental "winners" and "losers" is very important to the likelihood of the policy implementation, it is addressed in section 12.

9.3 Equity

Improves Horizontal Equity. Horizontal equity refers to the similar treatment of people in like circumstances and exists when a reasonable level of protection is available to all people with disabilities in similar levels of need. To determine the degree of horizontal equity, this study applies the no-distinction principle recommended for disability income reform by a 1982 Joint Federal-Provincial Task Force. This principle asks whether the option protects Canadians from the effects of disability regardless of where, how, or why it had occurred (Federal-Provincial Task Force, 1983, p.2, referenced in Torjman, 1997, p.3). Horizontal equity is not defined as equal entitlement to the same benefit levels; those funded through general revenue will never be as high as those paid by workers' compensation or employment-based long-tem disability plans.

Promotes Mainstreaming. This criterion addresses equity between working-age people with disabilities and the general population. It considers whether each policy alternative promotes the integration of people with disabilities into the mainstream of society. Torjman (1997) argues that mainstreaming should be an overarching principle in any disability policy reform:

> [p]eople with disabilities should have access to all public programs and to the same goods and services as other Canadians. Any reform that is being considered should be assessed against this principle i.e. whether the change moves persons with disabilities closer into the mainstream of society or segregates them even further to the sidelines (p.3).

Mainstreaming will be assessed by asking whether the option 1) provides an alternative to provincial social assistance programs; and 2) promotes and supports labour force participation to the degree the individual is able *in comparison to the status quo*. By definition, all targeted income security programs entail some level of work disincentives.

9.4 Administrative Feasibility

Implementation Timeframe. This criterion considers how long the reform would take to implement based on its complexity and the jurisdictional issues involved. It entails a slight revision of Torjman's (1997) typology:

- Short-term: Any changes that could be made in one year or less. Short-term changes generally include interpretive measures and adjustments to current programs.
- Medium-term: Changes would likely take from one to two years. These changes need more time as they entail negotiations with another party involved in the area or affected by the change.
- Long-term: Changes would likely take from two to four years. Refers to a comprehensive change that would require negotiations with the provinces.

Administrative Complexity. This criterion considers how complex and potentially costly a program is to administer in terms of eligibility determination, monitoring, and enforcement.

9.5 Ranking of Policy Options

Table 13 provides an overview of the major criteria and sub-criteria used for comparing the policy alternatives, along with their definitions and measurements. For each sub-criterion of effectiveness and equity, and for the implementation timeframe criterion of administrative feasibility, the policy alternative is assigned a ranking of low, medium, or high, which corresponds to a numbered rating from one to three. In the case of budgetary cost and administrative complexity, the ranking is reversed so that a high cost/complexity receives a score of one and low cost/complexity receives a score of three. All sub-criteria are equally weighted so that each major criterion contributes up to three points for a total of 12 points. This ranking of policy alternatives is not meant to be a conclusive or exhaustive assessment of the value of each policy option. Instead, its objective is to elucidate each option's key strengths and weaknesses in order to support sound policy decisions.

Table 13: Criteria for Analyzing Policy Options

Criteria	Definition	Measurement	Score
Effectiveness			
Benefit Adequacy	Would the benefit level provide a level of income that would effectively reduce food insecurity among its recipients?	$14,000 or more $10,000 – $13,999 $9,999 or less	High - 3 Medium - 2 Low - 1
Accessibility to Target Population	Are the three main barriers that reduce program take-up – stigma, transaction costs, and lack of information – inherent or suggested by the program design?	0 barriers 1 barriers 2-3 barriers	High - 3 Medium - 2 Low - 1
Includes At-Risk Groups	Would people with episodic disabilities and those with minimal labour force attachment be eligible?	2 groups eligible 1 group eligible 0 groups eligible	High - 3 Medium - 2 Low - 1
Budgetary Cost			
Net Cost to Government	In comparison to status quo, what is the net annual cost to the federal and provincial governments combined?	Over $2 billion $1-2 billion Under $1 billion	High - 1 Medium - 2 Low - 3
Equity			
Horizontal equity	Do people with similar disabilities/functional limitations have equal access at comparable benefit levels?	Yes to both Yes to one Neither	High - 3 Medium - 2 Low - 1
Promotes Mainstreaming	Are the work disincentives less or no larger than under the status quo? Does it provide a non-stigmatizing alternative to social assistance?	Yes to both Yes to one Neither	High - 3 Medium - 2 Low - 1
Administrative Feasibility			
Implementation Timeframe	Implementation timeframe given jurisdiction issues and complexity of reform	1 year or less 1 to 2 years 2 to 4 years	High - 3 Medium - 2 Low - 1
Administrative Complexity	How complex and costly is the program to administer in terms of eligibility determination, monitoring, and enforcement?	Not Complex Moderately Complex Very Complex	High - 1 Medium - 2 Low - 3

10 Evaluation of Policy Alternatives

This section evaluates the policy alternatives based on the criteria outlined in section nine. At the end of the evaluation discussion, Table 16 presents a summary of the rankings.

10.1 Effectiveness

10.1.1 Adequacy

Status Quo. In 2000, the average benefit rates for social assistance recipients (across all provinces) and CPP disability recipients were $9,796 and $8,767 respectively (Mustard et al. 2007, Exhibit 1 and 2). These low benefits lead to high rates of food insecurity among recipients. Data findings show that over half of social assistance recipients and one-quarter of CPP recipients were food insecure in 2005. According to Prince (2008), 9.9 percent and 10 percent of Canadians with disabilities relied on these programs respectively in 2000, although there is some overlap between programs as discussed in section 5.8.

RDTC. Implementing this option would increase the incomes of people with severe disabilities who meet the eligibility criteria of the disability tax credit but do not earn enough income to make use of it. Making both the federal and provincial disability tax credits refundable would increase the incomes of this population by between $1,366 and $1,715, depending on province based on 2005 rates (Mendelson et al., forthcoming, p.3). The effectiveness of this option would depend on the benefit not being clawed back by the CPP-D and social assistance programs; such assurances should be sought before implementation along with

appropriate enforcement mechanisms. Without clawbacks, this option would increase the average CPP-D income to $11,162 for qualified individuals. Yet as Table 14 shows, the welfare incomes of recipients in PEI, New Brunswick, and Alberta would remain below $10,000.

Table 14: Annual Welfare Incomes (2005) Including a Refundable Disability Tax Credit

Province	Welfare Income 2005 ($)	Combined Federal and Provincial Tax Credits 2005 ($)	Total Welfare Income Including RTDC
Newfoundland	9,728	1,518	11,246
PEI	8,084	1,518	9,602
Nova Scotia	8,897	1,366	10,263
New Brunswick	7,995	1,607	9,602
Québec	10,063	1,429	11,492
Ontario	12,057	1,390	13,447
Manitoba	8,601	1,663	10,264
Saskatchewan	8,893	1,715	10,608
Alberta	7,851	1,665	9,516
British Columbia	10,656	1,383	12,039

Sources: National Council of Welfare, 2006 p.49-50 and Mendelson et al. forthcoming p.3

Basic Income. The benefit amount under the Basic Income option would be equal to the OAS/GIS rate, which is currently $14,033.64. This option also includes a maximum dependent allowance of $2,406, which would help target lone parents with disabilities, a population with high rates of food insecurity.

Episodic Disabilities in CPP-D. As discussed under option one, the average CPP-D benefit rate is very low at $8,767, leading to high rates of food insecurity among beneficiaries. Since this option focuses on expanding program eligibility to a wider range of disabilities, not increasing benefit levels, it has the same adequacy as the status quo. Those who transfer from social assistance system to this program would not see an increase in their benefit in most provinces; in

some cases, it could even be reduced depending on whether their province provides CPP-D top-ups.

Policy Alternative	Adequacy
Status Quo	LOW – 1
Refundable Tax Credit	LOW/MEDIUM – 1.5
Basic Income	HIGH – 3
Episodic Disabilities in CPP-D	LOW – 1

10.1.2 Accessibility to Target Population

Status Quo. As noted in section five, the current system exhibits all three characteristics known to reduce program take-up – high transaction costs, lack of information, and stigma. The existence of multiple programs with different definitions of disability, eligibility requirements, and application processes creates barriers for people with disabilities in understanding and accessing the benefits for which they are eligible.

RDTC. As a tax expenditure program, the RDTC employs a non-stigmatizing manner of benefit delivery. Take-up for a tax expenditure program is almost universal as the vast majority of Canadians file tax returns if only to obtain refundable tax credits such as those for the GST. While not all people with disabilities who are currently eligible for the Disability Tax Credit have applied for it, most probably do not have incomes high enough to obtain any net benefits from this non-refundable credit (Torjman, 1997). Although the application is more complex than other tax credits due to the need for medical documentation, the application process is relatively straightforward with a form filled out by a physician or other qualified health practitioner. Nevertheless, lack of information is probably a factor.

Basic Income. Like the RDTC, this option would be a non-stigmatizing benefit delivered through the tax system. In terms of lack of information, the large benefit would provide incentives for disability organizations and advocates to advertise it and provide assistance with the application process. Provincial welfare caseloads of disabled beneficiaries could also be directly transferred to the Basic Income program. Nonetheless, the need to enforce rigorous eligibility standards in order to preserve a decent benefit level and control program costs could result in substantial transaction costs for applicants.

Episodic Disabilities in CPP-D. The take-up rate for this option would be greatly impacted by transaction costs, as the energy and effort it takes to apply to CPP-D is considerable. It has one of the lowest acceptance rates in the OECD, an elaborate appeals system, and a very low rate of successful appeals. In the mid-1990s, concerns about the financial sustainability of the growing CPP-D caseload led to administrative and program changes to restrict eligibility. Critiques of the accessibility of the CPP-D process were documented in the many submissions to the CPP evaluation process in the late 1990s. Concerns remain among the disability community about the appropriateness of the currently high threshold. The complexity of this process also results in considerable information barriers. These problems are likely even greater in assessing the validity and extent of partial disability claims. Stigma is not an issue under this option.

Policy Alternative	Accessibility to Target Population
Status Quo	LOW – 1
Refundable Tax Credit	MEDIUM – 2
Basic Income	MEDIUM – 2
Episodic Disabilities in CPP-D	LOW – 1

10.1.3 Inclusion of At-Risk Groups

Status Quo. The current system serves the income needs of neither at-risk group – people with low labour force attachment or episodic disabilities. The former group is eligible for only social assistance, and in British Columbia an "independence rule" enacted in 2002 specifies that to be eligible for welfare, the applicant must prove they have made $7,000 a year in the past two years. People with episodic may be limited to regular social assistance as most provinces apply a "severe and prolonged" definition of disability for their disability-specific welfare programs.

RDTC. People with minimal labour force attachment (i.e. people with severe work-limiting disabilities) would generally be eligible, as the majority would qualify under this definition. It would not target people with episodic disabilities who currently do not qualify under the severe and prolonged definition used by the DTC.

Basic Income. This option would target both at-risk groups.

Episodic Disabilities in CPP-D. As a contribution-based social insurance program, people with episodic disabilities would widely be eligible, but people with minimal labour market attachment would not.

Policy Alternative	Includes At-Risk Groups
Status Quo	LOW – 1
Refundable Tax Credit	MEDIUM – 2
Basic Income	HIGH – 3
Episodic Disabilities in CPP-D	MEDIUM – 2

10.2 Budgetary Cost

10.2.1 Net Cost to Government

Status Quo. Since this criterion considers only costs in addition to the current system, the status quo is "very low" cost by definition. Canada spends a significantly lower portion of its GDP on disability-related expenses compared to most other OECD countries. In 1999, it spent 1.2 percent of its GDP on all disability-related programs compared to an OECD average of 2.5 percent (OECD, 2003, p.17). At 7 percent, Canada's disability income expenditures as a share of total public social spending is also low compared to the United States and the European Union who each spend about 11 percent (Prince, 2008, p.27).

RDTC. The cost of making the disability tax credit refundable is low when compared to the following two options. According to calculations by Mendelson et al. (forthcoming), the total gross cost of the RDTC would be $1.46 billion if all working-age adults who reported a severe or very severe disability in the 2006 Participation and Activity Limitation Survey (PALS) were to qualify. Since this broad figure includes people with episodic disabilities and others who may not meet the existing DTC criteria, the actual cost is probably lower. In lieu of information on the actual prevalence of episodic disabilities in the Canadian population and other aspects DTC targeting, a rough estimation is that 70 percent of those with severe or very severe disabilities would qualify for a refundable Disability Tax Credit for a total gross cost of $1.02 billion. Since the current costs

are $92 million for the provinces and $200 million for the federal government, an estimation of the net budgetary cost is around $730 million.

Basic Income. Mendelson et al. (forthcoming) combined data from the Survey of Labour Income Dynamics (SLID), the Participation and Activity Limitation Survey (PALS), and administrative data from provincial welfare programs to estimate the net budgetary cost of the Basic Income proposal. They assumed that the entire cost would be paid by the federal government including the $92 million currently paid by provincial governments for their portion of the DTC. If the benefit was available to all people with a severe or very severe disability, a rough estimate of the Basic Income's net cost is between $2.5 and $3.6 billion. The cost implications for the respective levels of government will be addressed below in the political viability section (see Table 15 for approximations of these figures).

Table 15: Rough Estimate of the Net Cost of a Basic Income Program

Rough Estimates of Costs and Savings from Introducing a Basic Income Program	
Net Cost to the Federal Government	
Net cost of RDTC	$1.3 billion
Net cost of Basic Income	$4.8 billion
Total	$6.1 billion
Net Savings to the Provincial Government	
Provincial tax revenue from RDTC	$0.1 billion
Provincial savings from Basic Income	$2.4 - $3.5 billion
Total	$2.5 - $3.6 billion
Net Cost to Both Levels of Government	**$2.5 - $3.6 billion**

Source: Adapted from Table 4 in Mendelson et al.: forthcoming, p.20
Note from original source: Lower estimate provincial savings assumes average welfare savings from SLID of $5,474; higher range estimate assumes average welfare costs from administrative data of $8,007.

Episodic Disabilities in CPP-D. It is difficult to provide a cost estimate for this option for several reasons. First, the number of Canadians with episodic disabilities is unknown, as this question has not been asked on any national survey. While many health conditions are potentially episodic including pain disorders, cancer, mental illnesses, and a host of other diseases and conditions, they are not necessarily episodic. Second, countries that combine full and partial benefits, as this option proposes, tend to have higher disability rates, as the provision of partial benefits itself induces more people to report episodic disabilities. For example, the total disability rate (including seniors) is 20.6 percent in Sweden vs. 16.1 percent in Canada (OECD, 2003). Therefore, a rough back-of-the-envelope calculation is as follows. Sweden spends 2.1 percent of its GDP on its disability insurance program that is the equivalent to CPP-D compared to Canada's 0.7 percent. In 2001, the Canadian government spent $2.4 billion on CPP-D. If this option increased Canada's spending levels to even 1.4 percent of GDP (two-thirds of Sweden's), a moderate estimate, it could increase program spending by $2.4 billion, effectively doubling it.

Policy Alternative	Net Cost vs. Status Quo	Budgetary Costs
Status Quo	$0	LOW – 3
Refundable Tax Credit	$730 million	LOW – 3
Basic Income	$2.5 - $3.6 billion	HIGH – 1
Episodic Disabilities in CPP-D	$2.4 billion	HIGH – 1

10.3 Equity

10.3.1 Improves Horizontal Equity

Status Quo. As discussed in the background section, horizontal equity is low under the status quo as two people with the same disability and functional

limitations have very different access to benefits; they also have differing benefit levels depending on their program and province. As previously documented, some of these programs provide a reasonable level of protection from food insecurity while others do not.

RDTC. The RDTC would apply to all Canadians with severe and prolonged disabilities regardless of where, how, or why the disability occurred but not to episodic disabilities. It would also be portable between provinces, although the benefits would not be as high in every province as the provincial DTCs vary in their amount.

Basic Income. This option would ensure that a reasonable level of protection is available to all people with severe disabilities who are in need regardless of where, how, or why the disability occurs and would be portable between provinces.

Episodic Disabilities in CPP-D. The implementation of this option would decrease horizontal inequity in the system by including an important group of people with disabilities who are currently excluded from the majority of disability income programs. The functional limitations and work restrictions that result from many episodic disabilities including mental illness may be as or more significant than from many severe and prolonged disabilities. This option would not provide an equal benefit to those with similar levels of functional impairment as the calculation would be based on pre-injury earnings.

Policy Alternative	Horizontal Equity
Status Quo	LOW – 1
Refundable Tax Credit	MEDIUM – 2
Basic Income	HIGH – 3
Episodic Disabilities in CPP-D	MEDIUM – 2

10.3.2 Promotes Mainstreaming

Status Quo. The current system relies heavily on social assistance, a system that ostracizes its recipients from mainstream society. It also discourages labour market participation as its two main programs, CPP-D and social assistance tend to promote an "all or nothing" definition of disability that discourages recipients from participating in the labour force to the extent they are capable for fear of losing their benefits. While earnings exemptions have been included in CPP-D nationally and in some social assistance programs in recent years, thresholds tend to be low and many recipients continue to fear jeopardizing their benefits through work.

RDTC. This option would increase the incomes of people outside of the social assistance system and still be available to those in the labour force. It would not replace social assistance or counter the work disincentives in the current system. Even so, it does contribute somewhat to these goals by increasing the share of income coming from a non-stigmatizing source and decreasing the loss of income that would result from leaving the social assistance system.

Basic Income. This option would promote mainstreaming by removing people with disabilities from social assistance. Many beneficiaries would not be in the workforce due to the severity of their condition but for those who have some capacity to work, the scheme's low earnings exemption of $1,200 and a high 50 percent clawback rate would impose work disincentives. Nevertheless, these work

disincentives would not necessarily be larger than the status quo. In the majority of provinces, the monthly earnings exemption is $100 for a yearly total of $1,200, the same as the Basic Income (National Council of Welfare, 2006 p.22-25). At 75 percent in most provinces, the clawback on earnings above the exemption is 25 percent higher than the BI at 50 percent. Moreover, once one considers the onerous process of obtaining disability social assistance and its ongoing and intrusive income reviews and personal investigations, the work disincentives could be considerably less with a tax-delivered benefit.

Episodic Disabilities in CPP-D. Unlike now, CPP would recognize varying degrees of capacity, and the ability to combine benefits and work would increase work incentives for current recipients who have some residual work capacity. Yet new beneficiaries could face little incentive to move to a lower benefit category. As pointed out by the Council of Canadians with Disabilities, the inclusion of the disability benefit within the mainstream Canada Pension Plan does not segregate or stigmatize people with disabilities (Torjman, 1997, p.16). This policy would provide an alternative source of income to people with episodic disabilities who, despite some earnings history, currently rely on regular or disability-based social assistance benefits because their condition is not recognized by CPP-D.

Policy Alternative	Promotes Mainstreaming
Status Quo	LOW – 1
Refundable Tax Credit	MEDIUM/HIGH – 2.5
Basic Income	HIGH – 3
Episodic Disabilities in CPP-D	MEDIUM – 2

10.4 Administrative Feasibility

10.4.1 Implementation Timeframe

Status Quo. This option is already in place.

RDTC. As a tax expenditure, this option could be easily implemented in under one year.

Basic Income. Implementing a Basic Income is not overly complex; the main issues would be deciding who would be first payer in terms of the other income support programs and implementing a system that holds the provinces accountable for investing in disability supports. It could be implemented in one to two years.

Episodic Disabilities in CPP-D. As a significant reform to the Canada Pension Plan, this option would likely take from two to four years to implement; it would require the agreement of Parliament as well as two-thirds of the provinces representing at least two-thirds of the Canadian population.

Policy Alternative	Implementation Timeframe
Status Quo	HIGH – 3
Refundable Tax Credit	HIGH – 3
Basic Income	MEDIUM – 2
Episodic Disabilities in CPP-D	LOW – 1

10.4.2 Administrative Complexity

Status Quo. The status quo is very complex to administer due the existence of multiple programs with different definitions of disability, eligibility requirements, and application processes. An additional level of complexity is the issue of first payer that allows benefits to be combined in some provinces and not others (mainly by combining social assistance or workers' compensation with CPP-

D). As discussed in section five, the onerous application processes for disability social assistance and CPP-D result in high transaction costs and lack of information problems that further contribute to the complexity of the status quo.

RDTC. While the existing DTC is more complex to administer than other personal income tax provisions because of the need to assess severe and prolonged disability, it is less complex when compared to most other disability programs. Making the current DTC refundable would not add to its current level of complexity.

Basic Income. This option would reduce some of the complexity in the current system by consolidating provincial disability welfare programs into one system with a uniform benefit rate and earnings exemption provision. While a Basic Income would entail its own administrative, monitoring, and enforcement requirements, as a tax-expenditure these requirements should be more straightforward than those currently in existence for social assistance. As the interpretation and enforcement of social assistance rules often depends on the discretion of individual front-line workers, they tend to be unevenly applied. Nevertheless, a certain level of administrative complexity is inevitable in a Basic Income program due to the need to enforce rigorous eligibility standards.

Episodic Disabilities in CPP-D. Incorporating episodic disabilities into CPP-D would be more complex than a Basic Income due to the need to differentiate between a full benefit (100 percent work limitation) and varying degrees of partial disability (with work limitations of 25, 50, and 75 percent). It would also be necessary to differentiate between short- and long-term incapacities and choose the optimal reassessment period for each applicant since the benefit would be granted on a one to three year basis. This need for frequent

reassessments would create an additional administrative burden. Unlike the Basic Income, the benefit rate and earnings exemption threshold would vary by individual as they are based on earnings history. Recipients of partial benefits are allowed to earn the equivalent of their capacity reduction.[10]

Policy Alternative	Administrative Complexity
Status Quo	HIGH – 1
Refundable Tax Credit	LOW – 3
Basic Income	MEDIUM – 2
Episodic Disabilities in CPP-D	HIGH – 1

[10] For example, people whose earnings capacity is 75 percent are permitted to earn up to one-quarter of their pre-disability income with the remaining clawed back.

Table 16: Evaluation of Policy Alternatives

	1- Status Quo	2 – RDTC	3 – Basic Income	4 – Partial Disabilities
Effectiveness	**1**	**1.83**	**2.66**	**1.33**
Benefit Adequacy	Low 1	Low/Medium 1.5	High 3	Low 1
Accessibility to Target Population	Low 1	Medium 2	Medium 2	Low 1
Includes at Risk Groups	Low 1	Medium 2	High 3	Medium 2
Budgetary Cost	**3**	**3**	**1**	**1**
Net Cost to Government	Low 3	Low 3	High 1	High 1
Equity	**1**	**2.25**	**3**	**2**
Improves Horizontal Equity	Low 1	Medium 2	High 3	Medium 2
Promotes Mainstreaming	Low 1	Medium/High 2.5	High 3	Medium 2
Administrative Feasibility	**2**	**3**	**2**	**1**
Implementation Timeframe	High 3	High 3	Medium 2	Low 1
Administrative Complexity	High 1	Low 3	Medium 2	High 1
Total	7	10.08	8.66	5.33

11 Policy Recommendations

Based on this study's empirical findings and analysis of policy alternatives, the following two policy options are recommended for implementation:

1. Policy Alternative II: Make the Disability Tax Credit Refundable
2. Policy Alterative III: Implement a Basic Income program for People with Severe Disabilities

Immediately making the disability tax credit (DTC) refundable would be an important first step in reducing food insecurity among people with severe and prolonged disabilities. It would do so with high administrative ease, moderate effectiveness and equity, and at a reasonable budgetary cost. It would also remedy a current inequity in the system whereby some people who qualify for the DTC can receive a benefit through transferring it to a spouse or caregiver while others without such a person receive no benefit.

Implementing the Basic Income program would need to occur over a longer period and would have to address some difficult questions including how precisely to define disability, minimize work disincentives, and hold the provinces accountable to implementing a system of supports. Even so, the case for replacing social assistance with an adequate, non-stigmatizing benefit is persuasive; in 2005, over half of social assistance recipients were food insecure with over 30 percent reporting severe or moderate hunger.

A Basic Income would effectively reduce food insecurity among people with disabilities and provide significant improvements in horizontal equity and

mainstreaming. Most importantly, it would include the two groups currently left out of Canada's disability income system, people with little to no labour force attachment and people with episodic disabilities. A Basic Income could also be implemented within a relatively short period, although some administrative complexity would be inherent.

While the Basic Income is the most expensive option presented, its magnitude is not out of line with other spending items that were not high on the public agenda As Mendelson et al. (forthcoming), point out:

> …in the 2006 budget, cuts in income tax rates were forecast to cost about $1.4 billion dollars in the 2007-08 fiscal year and the one point reduction in the GST was forecast to cost about $5.2 billion in the 2007-08 fiscal year. Co-incidentally, these are almost the same as the costs of the RDTC and the Basic Income respectively (p.20).

Therefore, while a Basic Income program would need to compete with other public priorities such as healthcare and education, it is not cost-prohibitive. The next section discusses the political viability of reform.

12 The Political Viability of Reform

Reforming Canada's disability income system is difficult due to its divided jurisdiction and fragmented nature as well as the substantial cost of reform. This section considers the political viability of the two recommended policy options: making the Disability Tax Credit refundable and implementing a Basic Income program. It first discusses the likelihood of federal and provincial support for the options given the magnitude of program costs and any current policy positions. The role public opinion and the support of the disability community are also considered before turning to the potential of policy windows.

12.1 Federal and Provincial Support

From the federal perspective, the political viability of making the DTC refundable is high despite its associated costs. During the 1990s, a period of considerable fiscal restraint, over 20 tax assistance measures were directed specifically at persons with disabilities. As Prince (2002) argues, the tax system is currently the federal government's preferred mechanism for providing new disability investments. In terms of recent policy positions, this option was recommended by a 2007 House of Commons Standing Committee on Finance and the federal Liberal party has committed to its implementation if elected.

At present, federal support for the Basic Income alternative is low. It is not on the federal agenda nor is it likely to be due to its significant cost implications. In spite of this, a program of its scope and cost is not unprecedented; in the past, the federal government has been willing to use its spending power to implement

large transfer programs to increase the income security of two other vulnerable groups – seniors and children.

The provincial governments would predictably support a Basic Income program, as it would considerably decrease their welfare expenditures. In the design proposed by Caledon, the federal government would fund the entire expenditure through general revenues, thereby reducing provincial budgets further by the amount of the existing Disability Tax Credit. As Caledon, MISWAA, and many disability organizations propose, these savings could be reinvested in a system of supports, which has been identified by the provinces as a priority. The National Child Benefit program has created a precedent for this approach; it included a commitment by the provinces to reinvest their welfare savings into improved benefits and services for low-income families with children. Provincial support for implementing the RDTC as a stand-alone option would be much lower as it would entail costs to the provinces instead of savings.

12.2 Public Support

A crucial component of political viability is public opinion; as Bernstein (2002) states, "public opinion influences policy most of the time, often strongly ... and even in the face of activities by interest organizations, political parties and political and economic elites" (p. 26). This is particularly the case for policies that are costly and represent significant changes to the status quo; thus, public support is more necessary for the Basic Income option than the RDTC option. In fact, the RDTC could probably be implemented without much public support or knowledge; the costs are not enormous, and it has strong support from the disability community, the House of Commons Standing Committee on Finance, and the Liberal Party of Canada. Policymakers may also consider it a justifiable remedy to

a current inequity in the tax system whereby some people at very low incomes who qualify for the DTC can receive a benefit by transferring it to a spouse or caregiver while others without such a party receive no benefit.

Assessing the public's level of support for a Basic Income program must consider whether the issue is important to the Canadian public and at what priority. Public opinion polling has shown poverty and hunger to be of considerable concern. A 2006 Strategic Communications poll found 73 percent of Canadians to believe that hunger is a problem in Canada, while 57 percent believe governments should take responsibility for addressing the problem (Pegg, 2007). A 2008 Environics poll found 90 percent of Canadians to agree with the statement: "It's time for strong political leadership to reduce the number of poor people in Canada and in your province" (Hennesy and Yalnizyan, 2008, p.14). Nevertheless, over the last two decades, the priority of these issues on the public agenda has fluctuated but is generally lower than healthcare, education, the economy, and (in recent years) the environment (Ipsos-Reid, 2007).

Public support for a Basic Income program also depends on whether its design reflects Canadian values. The public broadly agrees that no one should experience severe impoverishment and that governments should provide an adequate social safety net (Rosen, 2003, p.187). Another core value is specific egalitarianism, the belief that everyone should have access to basic levels of life's necessities including food, housing, and healthcare. Fairness is also expected, in the sense that benefit levels and conditions of assistance are reasonable and consistently applied. Society further cares about targeting benefits on the most needy and vulnerable while encouraging reciprocity through labour market participation for those who are able.

The Basic Income program, as well as the RDTC, is in line with these values of income security, fairness, specific egalitarianism, and targeting towards the vulnerable. The notable exception is reciprocity. Reciprocity should not be of concern with making the DTC refundable as its original and continued purpose is compensating for the additional cost of disability. While the Basic Income program would entail work disincentives for those who have some residual work capacity in spite of a severe disability, these disincentives should not be significantly larger than under the current system.

12.3 Support from the Disability Community

The support of Canada's disability community also affects the political viability of reform. For decades, this community has been calling for major changes to the current disability income system based on its complexity, horizontal inequity, benefit inadequacy, and reliance on stigmatizing social assistance. The Refundable Disability Tax Credit is a top priority for the disability community and has been promoted by several national cross-disability organizations including the Council of Canadians with Disabilities and the Canadian Association for Community Living. While disability organizations who lobby on behalf of people with episodic disabilities (including the Multiple Sclerosis Society of Canada, Lupus Canada, Canadian AIDS Society, Canadian Cancer Society, and Muscular Dystrophy Society of Canada) would not oppose this option outright, they would not support the continued exclusion of their members from its benefit.

The idea of a Basic Income has even wider support among disability organizations due to its inclusion of episodic disabilities. The national coalition End Exclusion organized by the Council of Canadians with Disabilities, the Canadian Association of Community Living, and the Canadian Association of

Independent Living Centres has collected the endorsements of over 100 disability organizations that support an expanded federal role in disability income security to free up provincial investment in disability supports. On its own, it is doubtful that the disability community would have enough political influence to put a Basic Income option on the government agenda. Yet if the federal government decided to pursue such reform, policymakers would consider widespread support from the disability community to be essential.

12.4 A Note on Policy Windows

While an assessment of the current political viability of a policy alternative is important for understanding the likelihood of its implementation, the idea of policy windows is also relevant. First proposed by Kingdon (1984), a policy window constitutes an opportunity for a policy proposal to move onto the government decision-making agenda. A policy window opens when the three streams in public policy converge: the problem stream, the policy stream, and the politics stream.

For a window to open, an existing condition first comes to be recognized as a problem that necessitates government action (the problem stream). Second, a consensus emerges about the policy instruments that would best address the problem (the policy stream). Third, events occur in political institutions and circumstances that increase the chances of a policy being adopted including changes of government or public opinion (the politics stream). As suggested by this theory, if an opportunity for disability income reform arises in the politics stream, the work done by the Caledon, MISWAA, and the disability community to promote a Basic Income for working-age adults with disabilities could potentially open a window for implementation.

13 Conclusion

As the first in-depth Canadian investigation into the relationship between disability and food insecurity, this study lends weight to proposals to reform the disability income system that have been ongoing for decades. High rates of food insecurity among working-age people with disabilities demonstrate a deficiency in Canada's social safety net. This deficiency is further evidenced by the fact that simply turning 65 (and thus becoming eligible for OAS/GIS) immediately cuts the food insecurity rate of the average disabled person by 50 percent and by 90 percent if this person was previously on social assistance. The federal government's approach to addressing disability issues over the last decade – minor and incremental tax credits and deductions – is insufficient to resolve this issue. In the past, the federal government has undertaken major initiatives to improve the income security of seniors and children. The case for replacing social assistance with an adequate, non-stigmatizing benefit is similarly compelling.

Appendices

Appendix A

Table A1: Food Insecurity by Geography and Education for Working-Age Adults with Disabilities, 2005

	Overall Food Insecurity
All people with disabilities	**10.3**
Urban (N=16,127)	10.8
Rural (N=3614)	8.1
Ontario (N=8472)	10.6
Quebec (N=4838)	9.2
Nova Scotia (N=880)	12.8
PEI (N=92)	9.8
Alberta (N=2341)	9.0
BC (N=3120)	11.6
Less than secondary school graduation (N=2922)	16.9
Secondary graduation (N=2900)	10.8
Some post-secondary (N=1627)	14.0
Post-secondary graduation (N=12,292)	8.1

N=19,741
See notes to Table 6.

Appendix B

Additional Regression Models

	Model 2		Model 3		Model 4	
	B	**Exp(B)**	**B**	**Exp(B)**	**B**	**Exp(B)**
Aboriginal Status	.051	1.052	.017	1.017	.053	1.055
Female	.253**	1.288	.253**	1.288	.228**	1.256
Age 55-64 (ref)	-	-	-	-	-	-
18-24	.899**	2.457	1.015**	2.760	.913**	2.491
25-34	1.011**	2.749	1.116**	3.054	1.011**	2.748
35-44	1.010**	2.744	1.064**	2.898	1.009**	2.744
45-54	.636**	1.890	.652**	1.920	.616**	1.851
Living with spouse (ref)	-	-	-	-	-	-
Unattached	.294**	1.341	.287**	1.333	.304**	1.355
Single parent	.390**	1.477	.405**	1.499	.388**	1.474
Other	.102	1.107	.084	1.088	.095	1.099
Urban	.237**	1.267	.252**	1.287	.253**	1.288
Ontario (ref)	-	-	-	-	-	-
Québec	-.541**	.582	-.512**	.599	-.532**	.587
Nova Scotia	.063	1.065	.074	1.077	.081	1.084
PEI	-.195	.823	-.210	.810	-.209	.811
Alberta	-.126	.882	-.117	.890	-.107	.898
BC	.026	1.027	.037	1.037	.031	1.031
Post-secondary graduation (ref)	-	-	-	-	-	-
Less than secondary school graduation	.153	1.165	.165	1.180	.131	1.140
Secondary graduation	-.047	.955	-.059	.942	-.048	.953
Some post-secondary	.016	1.017	-.020	.980	.009	1.009
Respiratory Illness	.530**	1.700	.432**	1.541	.497**	1.643
Chronic fatigue	.464**	1.591	.254*	1.290	.361**	1.435
Learning disability	.460**	1.584	.429**	1.536	.418**	1.520
Autism or developmental disability	-.415	.660	-.423	.655	.426**	1.531
Permanently unable to work	.146	1.157	-	-	-.529	.589

Self-perceived health – good to excellent (ref)	-	-	-	-	-	-
Fair	-	-	.449**	1.566	-	-
Poor	-	-	.727**	2.069	-	-
Functional Limitation	-	-	-	-	.361**	1.435
Cause of health problem – mental illness	.387**	1.473	.365**	1.440	.385**	1.469
Repetitive strain injury	.346**	1.414	.346**	1.413	.339**	1.403
Main source of income – wages/salaries	.218**	1.244	.259**	1.295	.237**	1.268
Main source of income – EI	.670**	1.954	.726**	2.067	.691**	1.995
Main source of income – WCB	.561**	1.752	.553**	1.739	.518**	1.678
Main source of income – C/QPP	.704**	2.021	.682**	1.977	.706**	2.027
Main source of income – Social Assistance	.976**	2.655	.930**	2.534	.966**	2.626
Main source of income – Retirement income	-.156	.855	-.113	.894	-.135	.874
Renter	.787**	2.197	.784**	2.190	.789**	2.202
Income Decile 10 (ref)	-	-	-	-	-	-
Income Decile 1	4.167**	64.490	4.079**	59.107	4.148**	63.295
Income Decile 2	3.636**	37.927	3.525**	33.942	3.611**	36.985
Income Decile 3	3.136**	23.021	3.070**	21.532	3.118**	22.598
Income Decile 4	2.966**	19.409	2.882**	17.848	2.948**	19.074
Income Decile 5	2.684**	14.647	2.645**	14.084	2.669**	14.421
Income Decile 6	2.571**	13.079	2.519**	12.420	2.553**	12.848
Income Decile 7	1.788**	5.978	1.737**	5.683	1.782**	5.942
Income Decile 8	1.498**	4.472	1.468**	4.340	1.490**	4.436
Income Decile 9	.138	1.148	.123	1.130	.130	1.139

** indicates 1% and 5% levels of significance respectively
N= 19,741; 17,707 for dependent var. = 0; 2034 for dependent var. = 1.

Bibliography

Banting, Keith. 2006. "Dis-embedding Liberalism: The New Social Policy Paradigm in Canada." Edited by D. A. Green and J. Kesselman, *Dimensions of Inequality in Canada*. Vancouver: UBC Press.

Battle, Ken, Michael Mendelson, and Sherri Torjman. June 2006. *Towards a New Architecture for Canada's Adult Benefits*. Ottawa: The Caledon Institute of Social Policy.

BC Coalition of People with Disabilities. 2007. *Who Benefits? How Disability Benefits are Failing British Columbians*. BCCPD: Vancouver.

Bernstein, Paul. 2003. "The Impact of Public Opinion on Public Policy: A Review and An Agenda." *Political Research Quarterly* 56 (1):2003.

Burstein, Meyer. November 2005. *Combating the Social Exclusion of At-Risk Groups.* Ottawa: Government of Canada, Policy Research Initiative.

Che, Janet, and Jiajian Chen. 2001. "Food Insecurity in Canadian Households." *Health Reports* 12 (4).

Cossette, Lucie, and Edith Duclos. 2002. *A Profile of Disability in Canada*. Ottawa: Statistics Canada.

Currie, Janet. 2006. "The Take-up of Social Benefits." In *Public Policy and the Income Distribution*, edited by Alan Auerbach. New York: Russell Sage.

Daily Bread Food Bank. 2007. *Who's Hungry: 2007 Profile of Hunger in the GTA.* Toronto: Daily Bread Food Bank.

Data Probe Economic Consulting Inc., and Aron Data Probe and Spector. 2006. *Disability and Low Income in the Non-Senior Adult Population*. Gatineau: HRSDC.

Davis, Barbara, and Valerie S. Tarasuck. 1994. "Hunger in Canada." *Agriculture and Human Values* 11 (4):50-57.

Department of Finance. 2004. *Disability Tax Fairness: Report of the Technical Advisory Committee on Tax Measures for Persons with Disabilities*. Ottawa: Government of Canada.

Fraser, John, Cynthia Wilkey, and Frenschkowski. 2003. *Denial by Design: The Ontario Disability Support Program.* Toronto: Income Security Advocacy Centre.

Gundersen, Craig, and Victor Oliveira. 2001. "The Food Stamp Program and Food Insufficiency." *American Journal of Agricultural Economics* 83 (4):875-887.

Hennessy, Trish , and Armine Yalnizyan. October 2008. *Ready for Leadership: Canadians' Perceptions of Poverty.* Toronto: Canadian Centre for Policy Alternatives.

Human Resources and Social Development Canada. 2006. *Advancing the Inclusion of People with Disabilities*. Ottawa: Government of Canada.

Hurt, Anja. 2007. *The Canadian Pension Plan Disability Benefit and Barriers to Labour Force Participation for People with Episodic Disabilities*, Masters Thesis, Masters of Public Policy. Vancouver: Simon Fraser University.

Ipsos-Reid. November/December 2007. "Environment Has Returned as Top Issue." *Issue Watch* 22 (4).

Kaiser, Carla. 2008. *Food Stamps, Food Security and Public Health: Lessons from Minnesota.* Minneapolis, Minnesota: The Institute for Agriculture and Trade Policy.

Kesselman, Jonathan. 2006. "Policies for Improving Income Security: Choice of Program Design." In *First Annual Symposium of the Population, Work and Family Policy Research Collaboration*. Ottawa.

Kingdon, J. 1984. *Agendas, Alternatives, and Public Policies*. New York: Harper-Collins.

Kirkpatrick, Sharon I., and Valerie S. Tarasuk. 2008. "Food Insecurity is Associated with Nutrient Inadequacies among Canadian Adults and Adolescents." *The Journal of Nutrition* 138:604-612.

Mendelson, Michael, Ken Battle, Ernie Lightman, and Sherri Torjman. Forthcoming. *Design of a Basic Income (BI) Program in Canada*. Ottawa: Caledon Institute of Social Policy.

MISWAA. May 2006. *Time for a Fair Deal: Report of the Task Force on Modernizing Income Security Benefits for Working-Age Adults.* Toronto: St. Christophers House and the Toronto City Summit Alliance.

Mustard, Cameron, Caroline Dickie, and Stella Chan. 2007. *Disability Income Security Benefits for Working-Age Canadians.* Toronto: Institute for Work and Health.

National Council of Welfare. 2006. *Welfare Incomes 2005*. Ottawa: National Council of Welfare.

Nord, Mark, Michelle Hooper, and Heather Hopwood. May 24, 2007. "Food Insecurity in Canada and the United States: An International Comparison." In *IUHPE World Conference on Health Promotion and Education*. Vancouver, BC.

OECD. 2003. *Transforming Disability into Ability: Policies to Promote Work and Income Security for Disabled People*. Paris: OECD.

Patton, Carl V., and David S. Sawicki. 1993. *Basic Methods of Policy Analysis*. 2nd. ed. Englewood Cliffs, N.J.: Prentice-Hall.

Pegg, Shawn. 2007. *HungerCount 2007*. Toronto: Canadian Association of Food Banks.

Prince, Michael J. 2001. "Tax Policy as Social Policy: Canadian Tax Assistance for People With Disabilities." *Canadian Public Policy* 27 (4):487-501.

———. 2002. "Designing Disability Policy in Canada: The Nature and Impact of Federalism on Policy Development." In *Federalism, Democracy and Disability Policy in Canada*, edited by A. Puttee. Montreal and Kingston: McGill-Queen's University Press.

———. November 2,2007. "Disability Income Policy in Canada: Trends and Reform Ideas." Presentation at the *Income and Employment Sector Forum*. Toronto.

———. January 2008. *Canadians Need a Medium-Term Sickness/Disability Income Benefit*. Ottawa: Caledon Institute of Social Policy.

Puttee, Allan. 2002. "Reforming the Disability Insurance System: A Collaborative Approach." In *Federalism, Democracy, and Disability Policy in Canada*, edited by A. Puttee. Montreal and Kingston: McGill-Queen's University Press.

Rainville, Bruno, and Satya Brink. 2001. *Food Insecurity in Canada, 1998-1999*. Ottawa: HRDC, Applied Research Branch Strategic Policy.

Riches, Graham. 2002. "Food Banks and Food Security: Welfare Reform, Human Rights and Social Policy." Lessons from Canada? *Social Policy & Administration* 36 (6):648-663.

Rioux, Marcia H., and Michael J. Prince. 2002. "The Canadian Political Landscape of Disability Policy: Policy Perspectives, Social Status, Interest Groups and the Rights Movement." In *Federalism, Democracy and Disability Policy in Canada* edited by A. Puttee. Montreal and Kingston: McGill-Queen's University Press.

Rosen, Harvey S., Bev Dahlby, Roger S. Smith, and Paul Boothe. 2003. *Public Finance in Canada*. Toronto: McGraw-Hill Ryerson.

Sheilds, Margot, and Shahin Shooshtari. December 2001. "Determinants of Self-Perceived Health." *Health Reports* 13 (1).

Statistics Canada. *Canadian Community Health Survey (CCHS) Cycle 3.1 Derived Variable (DV) Specifications*.

———. 2003. Education, Employment and Income of Adults With and Without Disabilities. Ottawa: Minister of Industry.

———. December 2007. *Participation and Activity Limitation Survey 2006: Analytical Reports*. Ottawa: Minister of Industry

———. July 2008. *Participation and Activity Limitation Survey 2006: Labour Force Experience of People with Disabilities in Canada*. Ottawa Minister of Industry.

Tarasuck, Valerie S. 2001. "Household Food Insecurity with Hunger is Associated with Women's Food Intakes, Health and Household Circumstances." *The Journal of Nutrition* 131:2670-2676.

———. 2005. "Household Food Insecurity In Canada." *Topics in Clinical Nutrition* 20 (4):299-312.

Torjman, Sherri. 1997. *Disability Income System in Canada: Options for Reform.* Ottawa: Caledon Institute of Social Policy.

———.February 2002. *The Canada Pension Plan Disability Benefit*. Ottawa: Caledon Institute of Social Policy.

Vozoris, Nicolas T., and Valerie S. Tarasuk. 2003. "Household Food Security Is Associated with Poorer Health." *The Journal of Nutrition* 133:120-126.

Wilde, Parke E. 2007. "Measuring the Effect of Food Stamp on Food Insecurity and Hunger: Research and Policy Considerations." *Recent Advances in Nutritional Sciences* 137 (February 2007):307-310.