

Food security in Nunatsiavut: From historical perspectives to future prospects

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Abstract

Objective: Inuit in Canada identify food security as an Inuit-specific determinant of health. Historical and contemporary policies shape determinants of health. These policies vary among the four Inuit regions or Land Claim Areas in Canada that comprise Inuit Nunangat. This thesis focuses on one specific Inuit population, Labrador Inuit, located in Nunatsiavut, Canada, which is the southernmost Inuit Territory. Recognizing the variation and distinctness of each Inuit region, I pose the question: What is the role of policy in food security in Nunatsiavut, Labrador? To answer this question, I completed three studies. Study one is an analysis of the historical changes experienced by Labrador Inuit in governance, nutrition, and food security policies from the 1500s to 2005. In 2005, Labrador Inuit formed the first Inuit self-government in Canada, the Nunatsiavut Government. This study provides an understanding of the historical influences on the current context of Nunatsiavut and the policies that pertain to food security of Labrador Inuit. Study two is a scoping review that identifies current policies that pertain to food security and are implemented in Nunatsiavut. Finally, study three looks towards the future. In this study, policy actors were interviewed on policies that pertain to food security to understand their perspectives on current policies, including the opportunities for and barriers to improving food security in Nunatsiavut.

Methods: Article one is a historical-critical narrative analysis of governance, nutrition studies and interventions and policies that pertain to food security. It uses a critical dietetics lens to examine the extrinsic causes of nutrition and food security issues that resulted from colonization, and describes the interventions implemented to address them. Each document included in this analysis was assessed by the criteria for historical research that includes provenance, purpose, context, veracity, and usefulness. Also, this study employs process tracing using an adapted timeline from the Royal Commission on Aboriginal Peoples four stages of colonization. Article two is a scoping review that follows the Joanna Briggs scoping review methodology to identify current policies that pertain to food security in Nunatsiavut. Article three is a qualitative study of key informant interviews conducted from July 2020–December 2020 with policy actors that spanned the Nunatsiavut Government (regional Inuit government), Government of Newfoundland and Labrador (provincial government), the Government of Canada (federal government), non-governmental organizations and private industry. Participants were asked about their role, policy gaps, and opportunities for improving policies that pertain to food security of Labrador Inuit in

Nunatsiavut. It also included initial insights from emergency food security measures implemented during the first wave of COVID-19 in 2020. The results were reported as per the consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist. Each of these studies contained a process for member checking and validating results with key informants, subject matter experts and/or Nunatsiavut Government Advisory Group members.

Results: Article one describes the changes in governance, nutrition and food security of Labrador Inuit. The results show that country foods were a major contributor to overall Inuit health and protected Labrador Inuit from the nutrient deficiencies experienced by the Newfoundland population. However, colonialism that included settlement impacted Labrador Inuit's relationship with the land and access to country foods. Moreover, policies such as income support and residential schools negatively impacted the food security status of Labrador Inuit. However, in 2005, when Nunatsiavut became a self-government several policies and programs were in place to address the growing awareness of a lack of food security. In Article two, scoping review results identify policies that pertain to food security for Labrador Inuit in Nunatsiavut. Results from this study show that 25 policies, spanning three levels of government, implicitly or explicitly addressed at least one dimension of food security. Accessibility was the most frequent food security dimension identified and stability was the least food security dimension identified. The Government of Canada developed 60% of the identified policies and the Nunatsiavut Government implemented 48% of identified policies. In article three, 15 key informant interviews were completed, and three participants provided written responses. Seven participants (39%) stated they developed policy, six participants (33%) stated they both developed and implemented policy, and five participants (28%) stated they implemented policy. Seven themes were identified from discussions with policy actors. Policy recommendations to improve food security included improving transportation, social policies, and policy coherence in policy implementation. Five separate themes were identified from discussions on implementing emergency food security measures during the first wave of COVID-19 in Nunatsiavut. These included inadequacies of social policies, hidden poverty among people living in Nunatsiavut, and future considerations for post-COVID-19 food security policies.

Conclusion: The article results within this thesis show that historical and current inequities contribute to the current lack of food security of Labrador Inuit in Nunatsiavut. These inequities have persisted over time. During COVID-19, these inequities were further highlighted, demonstrating the importance of urgent action. The results of key informant interviews show that improving food security in Nunatsiavut is a matter of health equity. Findings from this thesis can inform actions to improve existing and future policies that pertain to food security of Labrador Inuit in Nunatsiavut.

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Candidate's contribution to research

Renee Bowers (RB) role in research consisted of developing research ideas, conceptualizing the respective studies, and collaborating with members of the PhD committee and Nunatsiavut Government Advisory Group to fully develop research ideas, the research approach and study design. RB conducted research, either independently or through collaboration with a PhD committee member. RB validated results with key informants and/or subject matter experts. RB wrote the first draft of each article and coordinated feedback and input from the PhD committee members and the Nunatsiavut Government Advisory Group. Finally, RB sent article revisions to PhD committee members and the Nunatsiavut Government Advisory Group members. RB considered articles complete when respective members indicated their feedback was incorporated and a consensus was reached on the final draft. RB then identified a journal for each article submission and sought feedback on the journal from PhD committee members. RB submitted articles to the respective journals. Finally, throughout the research process, RB provided regular updates on research progress to the PhD thesis committee, Nunatsiavut Government Advisory Group and, when requested, additional representatives of the Nunatsiavut Government.

Definitions

Body Mass Index: A weight-to-height ratio, calculated by dividing one's weight in kilograms by the square of one's height in meters and used as an indicator of obesity and underweight.

Country Food: Refers to traditional Inuit food, including game, meat, migratory birds, fish, and foraged foods and is an integral part of Inuit identity. The term is used interchangeably with the terms 'wild food' and 'traditional food' however country food is the term used by Inuit in Canada.

Employment Rate: A measure of the extent to which available labour resources (people available to work) are being used.

Food Insecurity: Food insecurity is defined as the inability to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways. Household food insecurity is often linked with the household's financial ability to access adequate food.

Food Security: Food security exists when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life.

Food System: A food system encompasses all the stages of keeping people fed including growing, harvesting, packing, processing, transforming, marketing, consuming, and disposing of food.

Harvesting: Obtaining country foods through hunting, trapping, fishing, or other means.

Household Food Insecurity: Household food insecurity is often linked with the household's financial ability to access adequate food.

Inuit: A distinct Indigenous People in Canada who primarily live in Inuit Nunangat.

Inuit Nunangat: The Inuit homeland in Canada that includes the Inuvialuit Settlement Region (Northwest Territories), Nunavut, Nunavik (northern Quebec), and Nunatsiavut (northern Labrador). Inuit Nunangat makes up 35 percent of Canada's landmass and 50 percent of its coastline. It is a distinct geographic, political, and cultural region that is co-managed by Inuit and the federal government through governance structures established by four comprehensive Inuit land claim agreements (Inuvialuit Final Agreement; Nunavut Land Claims Agreement; James Bay and Northern Quebec Agreement; and Labrador Final Agreement).

Labrador Inuit: Descendants of the prehistoric Thule people who have historically occupied most of the Atlantic coast of northern Labrador.

Market Food: Food typically shipped from southern centres to Inuit communities and sold in stores.

Self-reliance Ratio: A measure of the community's dependency on government transfers such as Canada Pension, Old Age Security, Employment Insurance, and Income Support Assistance. A higher self-reliance ratio indicates a lower dependency.

Unemployment Rate: This indicator is measured in numbers of unemployed people as a percentage of the labour force and is seasonally adjusted. The unemployment rate for a particular group (for example, age, sex, marital status) is the number unemployed in that group expressed as a percentage of the labour force for that group.

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Chapter 1: Introduction

1.1 Thesis overview

The World Health Organization (2008) defines health inequities as differences in health status between groups of people that are due to unfair or unjust conditions. Inuit are a distinct Indigenous People in Canada who experience greater social and economic inequities than the general Canadian population. Inequities are affected by the social determinants of health. The World Health Organization (n.d, para 1) states that the social determinants of health are conditions in which people are born, grow, live, work, and age, including the health system. These circumstances are shaped by the distribution of money, power, and resources at global, national, and local levels. Inuit in Canada created their own social determinants of Inuit health that reflect an Inuit philosophy towards health and focus on issues that impact Inuit within Inuit Nunangat (Inuit Tapiriit Kanatami 2014). To that end, Inuit in Canada have 11 Inuit-specific determinants of health, one of which is food security, a key determinant of “physical and psychological health” (Inuit Tapiriit Kanatami 2014, 29).

Historical and contemporary policies shape determinants of health. These policies vary among the four Inuit regions or Land Claim Areas in Canada. Recognizing the variation and distinctness of each Inuit region, I pose the question: What is the role of policy in food security of Labrador Inuit in Nunatsiavut? To answer this question, this thesis contains three articles that firstly critically review the historical changes in government, nutrition, and food security policies of Labrador Inuit; secondly, examine the current policies that pertain to food security for Labrador Inuit in Nunatsiavut; and thirdly, look towards the future through interviewing policy actors that work with policies pertaining to food security of Labrador Inuit. The purpose of these interviews is to understand policy actors’ perspectives on current policies, including the opportunities for and barriers to improving food security of Labrador Inuit in Nunatsiavut. As Inuit differ by region within Canada and the concept of food security is broad, I start this thesis with an introduction to the concept (food security), the intervention (policy), the population, (Labrador Inuit), and provide an overview of food security within Nunatsiavut.

1.1.1. The concept—food security definition

For this research project I reference the Food and Agricultural Organization’s definition of food security: “Food security, at the individual, household, national, regional, and global levels [is achieved] when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (Food and Agricultural Organization 2008). This reference is acknowledged in the Inuit Tapiriit Kanatami document on social determinants of Inuit health (Inuit Tapiriit Kanatami 2014) and the 2021 Inuit Nunangat Food Security Framework (Inuit Tapiriit Kanatami 2021). I also reference the following four dimensions of food security—*availability*, *access*, *utilization*, and *stability* (Food and Agricultural Organization 2008)—in discussions as these dimensions have been used to frame research on food security (Tolley and Ibrahim 2013) and are consistent with the Food and Agricultural Organization definition. However, I recognize that different dimensions exist, namely adequacy and agency, and have been referenced in discussions focused on food security and Inuit in Canada (Council of Canadian Academies 2014, Myers, Powell, and Duhaime 2004).

The *availability dimension* of food security refers to the quantity of safe and nutritious foods that are consistently available to individuals and meet their tastes and cultural traditions, for example, when food is in proximity or reach. This dimension focuses on the supply side of food. The *access dimension* of food security refers to individuals and households that have the adequate economic and physical access to food. The *utilization dimension* of food security refers to the proper biological use of food required to provide sufficient energy and nutrients, potable water, and sanitation. This includes the knowledge and skills to prepare food. The first three dimensions are based on a static concept of food security. The fourth dimension of food security, *stability*, refers to the ability to be food secure in the present and future and is a dynamic concept of food security (Food and Agricultural Organization 2008).

1.1.2 The intervention—policy

The Canadian Institute of Health Research, a population health intervention research initiative for Canada, states that “population health interventions are policies, programs, and resource distribution approaches that impact a number of people by changing the underlying conditions of risk and reducing health inequities” (Canadian Institute of Health Research 2012, para 1). For this population health thesis, I consider policy as an intervention. Moreover, given the

context of self-determination for Indigenous Peoples, and with the understanding that governance is an important aspect of improving health equity, I also place importance on the policy development and implementation process. Accordingly, the latter concept is expanded upon in the theoretical overview in a later section.

For this thesis, I utilise two definitions of policy. The first is a general definition of policy that is used to describe a formal decision or plan of action adopted by an actor to achieve a particular goal (Porta 2014). The second is a definition of public policy which is the expressed intent of government to allocate resources and capacities to resolve an identified issue within a certain time frame (de Leeuw, Clavier, and Breton 2014). I have used both definitions to ensure inclusion of a fulsome review of policies that pertain to food security of Labrador Inuit in Nunatsiavut.

1.1.3 The population—who are Labrador Inuit?

Inuit are a distinct Indigenous People in Canada. They predominantly live in Inuit Nunangat, which is in northern Canada. There are four Inuit regions in Canada—Nunavut, Inuvialuit, Nunavik, and Nunatsiavut—and in 2012 these regions had a combined population of 59,500 people (Inuit Tapiriit Kanatami, 2014). Nunatsiavut is the southernmost Inuit territory. It is located in northern Labrador in the Province of Newfoundland and Labrador. Figure 1.1 shows a map of Inuit Nunangat.

Figure 1.1: Simplified Inuit Nunangat Map



In: Inuit Tapiriit Kanatami 2021. <https://www.itk.ca/wp-content/uploads/2019/04/ITK-Map-20190429-digital-simplified.jpg>

In Inuktitut, Nunatsiavut means “our beautiful land”. It is the homeland of Labrador Inuit and encompasses 72,520 km² and 44,030 km² of sea in northern Labrador. Labrador Inuit formed this land claim area after 30 years of negotiation with the Federal Government of Canada and the Province of Newfoundland and Labrador (Nunatsiavut Government 2021). In 2005, all parties signed the Inuit Land Claims Agreement (Labrador Inuit Land Claims Agreement 2019). This agreement is a modern-day treaty between Inuit of Labrador, the Province of Newfoundland and Labrador, and Canada, and is constitutionally protected under section 35 of the Constitution Act, 1982 (Canada 2013). On December 1, 2005, the Nunatsiavut Government was formed—the first

Inuit regional self-government in Canada. This government has the power to make laws and to choose which laws to make. These laws are in turn formed by the principles and guidelines set forth in the Labrador Inuit Constitution. These principles include democracy and equality, preservation of their culture and language, pursuit of a healthy society, pursuit of a sustainable economy and preservation of the lands, waters, animals, and plants of their ancestral territory. The Nunatsiavut Government has authority over areas such as health, education, culture, language, justice, and community matters. The Nunatsiavut Government has both a regional government with seven departments and community governments based in each of the five communities (Nunatsiavut Government 2021). A map of the communities within Nunatsiavut is illustrated in Figure 1.2.

Figure 1.2: Map of Nunatsiavut communities in northern Labrador



In: Tourism Nunatsiavut, n.d. <https://www.tourismnunatsiavut.com/home/>

The five communities within Nunatsiavut span the northern Labrador coastline. They include Nain, which is the northernmost community and administrative capital, Hopedale, the legislative capital, Makkovik, Postville, and Rigolet, the southernmost community. All five communities are remote and only accessible by a commercial year-round plane service and a seasonal ferry service. In 2016, 2,560 people lived in Nunatsiavut and 89% of the population identified as Inuit (Canada 2018). A social and economic profile of each community is in Table 1.1.

Table 1.1: Socio-economic profile of communities within Nunatsiavut

	Nain	Hopedale	Makkovik	Postville	Rigolet	Happy Valley-Goose Bay	Regional Profile Newfoundland and Labrador
Population ¹	1,125	570	375	175	305	8,110	519,715
Median age ¹	31	32	36	41	38	39	46
Median age of death in 2004–2019 ²	48	57	71	73	71	73	78
Birth rate ³	16.2	11.5	5.1	5.6	16.1	10.2	7.1
Income of half of males in the area ⁴	More than \$30,800	More than \$25,400	More than \$41,200	More than \$33,400	More than \$34,700	More than \$59,800	More than \$40,700
Income of half of females in the area ⁴	More than \$28,800	More than \$32,400	More than \$35,200	More than \$27,300	More than \$35,700	More than \$42,100	More than \$27,900
Average couple annual income (2018) ⁵	\$103,000	\$94,900	n/a	\$92,900	\$133,500	\$110,600	\$110,600
Self-reliance ratio (2018) ^{3,5}	80.1%	78.7%	81.5%	78.1%	88.1%	89.3%	79.9%
Employment rate ¹	40.1%	41.8%	44.3%	39.3%	38.3%	66.9%	49.5%
Unemployment rate ¹	29.9%	13.3%	41.9%	33.3%	32.1%	8.2%	15.6%
% of labour force that collected Employment Insurance (2020) ⁴	29.3% (average benefits \$9,900)	31.7% (average benefits \$9,800)	47.1% (average benefits \$11,900)	48.0% (average benefits \$10,700)	50.0% (average benefits \$10,000)	26.7% (average benefits \$10,400)	40.7% (average benefits \$11,200)
Income Support Assistance prevalence (2020) ⁵	25.1% at some point (average benefits \$12,900)	37.3 % at some point (average benefits \$15,900)	5.7% at some point (average benefits \$9,600)	5.7% at some point (average benefits \$10,300)	4.8% at some point (average benefits \$11,400)	5.5% at some point (average benefits \$14,900)	8.5% at some point (average benefits \$17,000)
Number of dwellings (2016) ¹	325	185	135	112	115	3,305	218,675
% of owned dwellings	75%	54.1%	82.1%	73.3%	65.2%	66.2%	76.8%
Average monthly cost of owned dwellings ¹	\$549.00	\$476.00	\$412.00	\$414.00	\$397.00	\$1288.00	\$984.00
Average monthly cost of rented dwellings ¹	\$460.00	\$486.00	\$572.00	\$457.00	\$442.00	\$868.00	\$836.00

Sources: 1. Canada. Statistics Canada 2018. 2. Newfoundland and Labrador. Newfoundland and Labrador Statistics Agency, 2021. 3. Newfoundland and Labrador. Newfoundland and Labrador Statistics Agency, 2020. 4. Newfoundland and Labrador. Newfoundland and Labrador Statistics Agency, 2020. 5. Newfoundland and Labrador. Newfoundland and Labrador. Statistics Agency, 2020.

Labrador Inuit are the people of Nunatsiavut. However, place is not the only defining characteristic of Labrador Inuit. Labrador Inuit are also defined by the values they hold. These values include:

1. Land and sea identify who they are and affect their sense of place, of belonging, and their health;
2. Incorporate respect for one's self and others into all aspects of their daily lives;
3. Everyone is considered equal and consensus is valued;
4. Value non-interference in the lives of others and rights of others to make informed choices in their lives;
5. Respect for traditional Inuit knowledge, teaching, and healing practices;
6. Recognize many ways of knowing;
7. Inuktitut language and Labrador Inuit oral tradition are important for protecting Inuit culture and history;
8. Resourcefulness, self-reliance, innovation and adaptability, cooperation and working together, thinking well, and solving problems in a practical way;
9. Sharing and caring for others, taking personal responsibility for one's decisions, behaviours, and actions; and
10. A strong sense of family (Mayo 2009).

I recognize thus far that values have been highlighted for both the Nunatsiavut Government and for Labrador Inuit. I feel these are important to note prior to a discussion on specific policies as values are integral to discussions on the structural determinants of health inequities (Solar and Irwin 2010) and their inclusion adds to a greater understanding of Labrador Inuit.

1.2. Overview of the issue—Labrador Inuit and food insecurity

In 2014, 88.0% of Canadian households were food secure and in 2012, in the province of Newfoundland and Labrador, 86.6% of households were food secure (Tarasuk, Mitchell, and Daschner 2012). In comparison, 2014 survey results from the first study that focused solely on Nunatsiavut showed that regionally only 40.7% of households were food secure, 8.1% of households were marginally food secure, 29.7% of households were moderately food secure, and 21.6% of households were severely food insecure (Furgal et al., 2017). This study used the 18-item United States Department of Agriculture (USDA) Food Security Survey Module (Bickel et al., 2000; Nord, Andres and Carleson 2005) that was administered to the head of households. Five hundred and thirty-seven households responded to the survey. Households were classified as food secure (0 affirmative responses), marginally food insecure (1 affirmative response), moderately food secure (2-5 affirmative responses including compromised the quality and

quantity of food eaten) and severely food insecure (2-5 affirmative responses and adults/or children in the household reduced the size of meals, skipped meals or had gone two days without eating).

In 2007-2008, a survey focused on food insecurity and Inuit, was conducted with Inuit in Canada, and included Labrador Inuit in Nunatsiavut. This survey included 2,595 self-identified Inuit adults aged 18 years. Each Inuit adult completed a quantitative household food security questionnaire, tailored to Inuit. This survey used the 18-item United States Department of Agriculture Food Security Survey Module. This survey module was slightly modified by Indian and Northern Affairs Canada to improve acceptability among Inuit population (Bickel et al., 2000; Nord, Andres and Carleson 2005; Lawn and Harvey 2003). The survey results showed that the prevalence of food insecurity varied by Inuit region. During 2007–2008, in Nunatsiavut, 54.3% of households were food secure, 45.7% were food insecure, and 30.5% were moderately food insecure. For children, 74.2% were food secure, 25.8% were food insecure, and 14.8% of children were moderately food insecure (Egeland 2010; Rosol et al., 2011).

Additional reports on food insecurity and Inuit in Canada include a report prepared by Arriagada (2017). Using data from the 2012 Aboriginal Peoples Survey to examine the prevalence of food insecurity amongst Inuit, Arriagada's (2017) analysis showed that 52% of Inuit aged 25 and over lived in a household that had experienced food insecurity in the past 12 months; for Nunatsiavut, it was 42%. The Aboriginal Peoples Survey used the United States Department of Agriculture short form questionnaire, and the categories were defined as either food secure or food insecure (United States Department of Agriculture 2012).

In 2014 the survey focused solely on Nunatsiavut provided the prevalence of household food security at both a regional (Nunatsiavut) and community level (Nain, Hopedale, Makkovik, Postville, Rigolet). As stated previously, regionally only 40.7% of households were food secure, 8.1% of households were marginally food secure, 29.7% of households were moderately food secure, and 21.6% of households were severely food insecure. The individual community results of the 2014 survey showed a difference in the percentage of food secure households by community. Nain, the northernmost community in Nunatsiavut, had the lowest percentage of food secure households (20.2%) and the highest percentage of severely food insecure households (38.3%). Rigolet, the southernmost community in Nunatsiavut, had the highest percentage (77.9%) of food secure households and lowest percentage (4.7%) of food insecure households (Furgal et al., 2017).

The survey results also showed the impact of food insecurity status on eating patterns. Regionally in Nunatsiavut, 13.2% of households had adults that did not eat for a day and 6.8% of households had children that did not eat for a day. Again, there was a regional variation by community. In Nain, 43.5% of households had adults who did not eat for a day and 13.4% of households had children that did not eat for a day. In Rigolet, results showed a different pattern as 2.3% of households had adults that did not eat for a day and 0% of households had children that did not eat for a day (Furgal et al., 2017).

While it is difficult to compare these survey results due to the different methodologies used, and differing measurement tools, the results show that food insecurity has remained an issue for Labrador Inuit from 2006 until present day. The continued presence of household food insecurity, juxtaposed against my personal knowledge of efforts to improve this situation in Nunatsiavut, was one of the factors that led to the research question posed in this thesis.

1.3 Specific thesis objectives

I assume there is not one role for policy in food security and the potential impact differs—policies can potentially improve and/or negatively impact food security. Also, I recognize that the current state of low food security for Inuit in Canada is impacted by both historical and current policies (Inuit Tapiriit Kanatami, 2014) and that Inuit differ by region. Accordingly, this thesis explores the following:

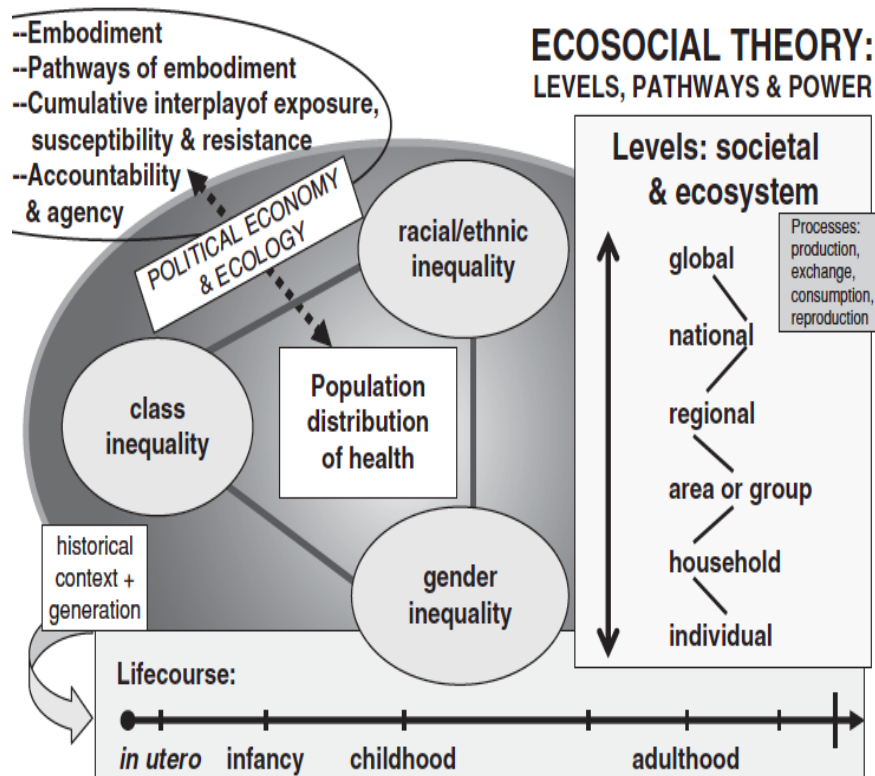
1. The past context: The role of policy from a historical perspective in the first article to ascertain the role of historical policies on the current low state of food security for Labrador Inuit in Nunatsiavut.
2. The present context: Identifies the range of policies that pertain to food security for Labrador Inuit in the present and maps these policies according to the dimensions of food security.
3. The future: Looks towards the future through understanding policy actors' perspectives on the current issues, policy gaps, and policy improvements to address food security within Nunatsiavut. These voices are underrepresented in current research on food security and policy.

1.4 Theoretical overview

I used two theories as the basis for this thesis. The first is the ecosocial theory of disease distribution (Krieger 2011), a social epidemiology theory. Social epidemiology is a branch of epidemiology that focuses particularly on the effects of social-structural factors on states of health. It assumes that the distribution of advantages and disadvantages in a society reflects the distribution of health and disease. The central and initial question of social epidemiology to be answered is what is the effect of social factors on individual and population health? (Honjo 2004). I chose the ecosocial theory of disease distribution as it seeks to integrate social factors, biological factors, and historical and ecological perspectives to provide insights into determinants of population distribution of disease and social inequities in health. Another factor influencing the choice of theory was Adelson's study *The Embodiment of Inequity* as Adelson states "health disparities are related to economic, political, and social disparities—and not to any Aboriginal trait—and because of the limited autonomy Aboriginal peoples have in determining and addressing their health needs (Adelson 2005, s45-s46). Through embodying these social inequities Indigenous Peoples "exact a high personal toll in the form of disease, disability, violence, and premature death" (Adelson 2005, s46). As embodiment is a key construct in the ecosocial theory of disease distribution and consistent with Adelson's explanation of disease amongst Indigenous Peoples, I felt this theory had relevance to this thesis topic.

The ecosocial theory introduced by Krieger (1994) pays attention to societal and ecological context, to life course and historical generation, to levels of analysis, to interrelationships between—and accountability for—diverse forms of social inequality, including racism, class, and gender, and to epidemiologists' context and conceptual frameworks. This theory asks: who and what drives current and changing patterns of health inequities? (Krieger 1994). The ecosocial theory of disease distribution explicitly incorporates constructs that pertain to political economy, political ecology, ecosystems, spatiotemporal scales and levels, biological pathways of embodiment, and the social production of scientific knowledge. A visual of this theory is in Figure 1.3.

Figure 1.3: Overview of ecosocial theory of disease distribution



Source: Krieger 2011.

As mentioned previously, embodiment is one of the key constructs of the ecosocial theory of disease distribution. Also, there is an emphasis on the life course approach that examines accumulation of exposure over a lifetime. This theory also critiques the prevalent framing of determinants as “proximal vs distal” and proposes specific alternative theoretical constructs to guide hypothesis generation, study design, and data interpretation (Krieger 2011, 203). As seen in Figure 1.3, the ecosocial theory of disease distribution has four constructs. A description of each construct is located in Table 1.2.

Table 1.2: Overview of the ecosocial theory of disease distribution constructs

Construct	Construct explanation
Construct 1: Embodiment	People biologically embody their lived experience in a societal and ecological context, creating population patterns of health and disease. It is the social context that harms health, which then affects opportunities for healthy living. The embodiment construct also recognizes that history matters, as it reflects the past and present social divisions that define how created groups relate to each other, and establishes how these groups differentially accumulate property, resources, and privileges across generations.
Construct 2: Pathways of embodiment	Involves exposure to social and economic deprivation that includes exogenous hazards, discrimination, and other forms of social trauma, targeted marketing of harmful commodities, inadequate or degrading health care, and degradation of ecosystems including alienation of Indigenous Peoples from their lands and corresponding traditional economies.
Construct 3: Cumulative interplay of exposure, susceptibility, and resistance across the life course	The construct refers to the timing, accumulation, plus responses to embodied exposure that involves gene expression and not gene frequency.
Construct 4: Accountability and agency	This construct calls for accountability for health inequities and the ways in which they are monitored and analyzed. This construct draws attention to the issues of power at every level, the institution and individual's capacity to act, and their responsibility for both actions taken and avoided.

Source: Krieger, 2011.

In addition to the relevant constructs, this theory includes a focus on issues of power and material resources and how they operate at different levels and in diverse domains to affect the population distribution of health (Krieger 2011). The first theory provides a model to explore the factors that impact food security as a determinant of Inuit health. The focus on power is relevant to both the focus on Indigenous Peoples' self-determination and improving food security. Specifically, governance which is also linked to power, is an important aspect of improving food security (Perez-Escamilla 2017) and an important consideration in a self-government context for Indigenous Peoples. Therefore, exploring *who* is exercising power through developing and implementing policies that pertain to food security is the focus of the second theory.

The second theory, the Multiple Streams Framework, is from the field of political science (Kingdon 1984) and focuses on the policy development process. I chose this theory to expand upon the concept of power in Krieger's theory and to support discussions on self-determination of Indigenous Peoples. Specifically, this theory identifies who is setting the agenda process for policy development. While it may be atypical to have a social epidemiology theory and policy development theory in the same thesis, I view the two theories as working together, as the first theory helps to understand why food insecurity developed and persists for Labrador Inuit; the second theory asks who is defining solutions to address the issue? The latter question is important from both a political science perspective, and for Labrador Inuit, a self-determination perspective.

For Inuit in Canada, the Inuit Tapiriit Kanatami state that policy is only meaningful if it is developed with Inuit (Inuit Tapiriit Kanatami 2017). Governance, and specifically having a voice in policies, is a recommendation from the World Health Organization on taking action towards the social determinants of health (World Health Organization 2008). I chose the Multiple Streams Framework, that is a theory of the policy process originally developed by Kingdon (Kingdon 1984) to examine the policy development process. Theoretically, policies can follow a stage heuristic that includes five stages, from agenda setting, policy formulation, adoption or decision-making, implementation, and evaluation (de Leeuw, Clavier and Breton 2014). For the purposes of this thesis, I consider policy development the same as adoption. The Multiple Streams Framework has historically been used to analyze agenda-setting and decision-making in the policy cycle, although it has also been applied to policy implementation and policy termination (Herwig and Zohlnhöfer 2017). The Multiple Streams Framework has five elements: three streams (problem stream, policy stream, and political stream), the policy/agenda window, and the policy entrepreneur. Each of these elements is explained further in Table 1.3. These three streams can remain independent but converge at a point where a policy window opens (Herwig and Zohlnhöfer 2017). It is an opportunity for advocates of a proposal to rush attention to their special problems (Kingdon 1984). The policy entrepreneur is a person who manages the politics to push through their solutions.

Table 1.3: Multiple Streams Framework elements

Multiple Streams Framework elements	Element overview
Problem stream	Identifies an issue as a problem and posits that government action is needed to resolve the problem.
Policy stream	The members of the policy community develop policy alternatives to the identified policy problems based on how people view the situation as a problem. The structure of the policy community, namely the degree of integration and linkages among its members, influences the degree of the range of ideas and the speed that policy ideas are developed. Policy communities with greater integration are more likely to follow an emergent or convergent pattern, whereas policy communities that are less integrated have more competition and are slower to develop and propose a solution.
Political stream	The political system levels.
Policy window	When the three streams cross or converge. Policy windows can be both predictable, such as elections or budgets, and unpredictable, including worsening of problems and natural disasters. They are sometimes referred to as an agenda.
Policy entrepreneurs	Advocates who can occupy any position and push their proposals into the policy stream. They adapt their proposal to find a viable home in the policy community and consequently make them a viable alternative. Policy entrepreneurs attach solutions to their problems and find politicians who are receptive to their ideas. Policy entrepreneurs can be both within and outside of government.

Sources: Herwig and Zohlnhöfer 2017; Kingdon 1984

Krieger (2011, 235) highlights the importance of the theory in research and states, “we stand a better chance at generating valid knowledge relevant to explaining disease distribution and altering it for the good” when it is theoretically sound. These two theories informed the research approaches and methods of the articles contained in this thesis.

1.5 Contribution of this thesis to the population health field

The field of population health is a framework for ascertaining why some populations are healthier than others. Population health comprises the health outcomes, patterns of health determinants, and the policies and interventions that link these two (Kindig and Stoddart 2003). Policies can alter determinants as they allocate financial, human, and physical resources at global, national, and local levels (Embrett and Randall 2014; Kindig and Stoddart 2003).

Therefore, understanding the role of historical and current policies that pertain to food security of Labrador Inuit in Nunatsiavut is a contribution to the field of population health as it has the potential to impact actions that can potentially alter the pattern of determinants, such as food security.

According to the Inuit Tapiriit Kanatami, the current state of food insecurity for Inuit is a result of past and current inequities (Inuit Tapiriit Kanatami 2014). The goal of working on health equity and determinants of health is to improve the health of the population and to ensure the conditions that support health are equally distributed (Jackson and Huston 2016). The World Health Organization Commission on Social Determinants of Health (2008) suggests actions to improve social determinants of health and ultimately improve equity. These actions include improving daily living conditions, tackling the inequitable distribution of power, money, and resources, measuring and understanding the problem, and assessing the impact of action. Policies are an integral part of these actions. Accordingly, understanding the policy landscape and generating knowledge about whether the resulting interventions work, how they work, for whom, and under what circumstances is an important part of population health research (Jackson and Huston 2016, s1–3). Yet, as shown in Appendix A, there is very little policy research on food security specific to Nunatsiavut or Labrador Inuit. Instead, research has focused on measuring food insecurity, measuring dietary intake, or documenting health impacts due to a lack of food insecurity or changes in dietary intake.

This thesis contributes to the field of population health through summarizing the role of policy and food insecurity for Labrador Inuit. The first article examines past inequities through providing an overview of the unique historical context that has contributed to the low state of food security for Labrador Inuit in the present day. The second article maps the current policy landscape that pertains to food security of Labrador Inuit through identifying current policies and mapping them according to the dimensions of food security. Finally, the last article provides a more in-depth analysis of policy actors' perspectives, who are part of the policy stream, on current policies that pertain to food security for Labrador Inuit in Nunatsiavut. This is a novel perspective as it includes all levels of government, the private sector, and non-government organizations. As this research occurred during the first wave of COVID-19 in 2020, the research results also provide policy actors' perspectives on the emergency measures implemented to address food security during this time. In summary, this thesis builds on the

Inuit Tapiriit Kanatami's observations and provides an overview of past and current policies that have contributed to these inequities. It also provides policy suggestions for the future to improve food security and contribute to a fair and more just future for Labrador Inuit in Nunatsiavut.

Chapter 2: Literature review

2.1 Inuit in Canada and food insecurity

For Indigenous Peoples in Canada, food is not simply *what* Indigenous Peoples eat, but also *how* they eat, *why* they eat, and what it means to them. The foods and their procurement are a part of the respectful interrelationships among humans, plants, animals, and land and are connected to all aspects of health (physical, emotional, spiritual, and mental) (Dawson 2020). For Inuit, country foods are central to their culture, sense of identity, and connection to the land (Boulanger-Lapointe et al., 2019). Inuit in Canada consider country foods as a part of their right to food and Labrador Inuit have identified food security as a climate-sensitive health priority (Inuit Tapiriit Kanatami, 2012; Harper et al., 2015).

The 2021 Inuit Nunangat Food Security Strategy states the vision for Inuit food security as “We envision ending hunger and advancing Inuit food sovereignty throughout Inuit Nunangat by securing a sustainable food system that reflects our societal values, supports our well-being, and ensures our access to affordable, nutritious, safe and culturally preferred foods” (Inuit Tapiriit Kanatami 2021, 5). An Inuit food system incorporates harvested and store-bought foods (Inuit Tapiriit Kanatami 2012; 2021). Improving food security of Inuit in Canada requires policies that address the unique aspects of the Inuit food system.

As noted previously, Inuit in Canada reference the Food and Agriculture definition of food security and the dimensions (Food and Agriculture 2008). They also state that all the dimensions should be met to achieve food security. Food insecurity is defined as the inability to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways. Household food insecurity is often linked with the household’s financial ability to access adequate food (Canada, 2020). The Inuit Tapiriit Kanatami state that for Inuit, being food insecure also means “they don’t have access to country foods from the land which are central to their culture and way of life” (Inuit Tapiriit Kanatami 2021, 5) To ensure consistency with the accepted definitions, within this literature review, I will use the term food insecurity when referring to the literature or policies that focus on economic access and in discussions on access to country food.

Food security is a multifactorial issue and is impacted by a broader range of factors than economic access. For example, food security often varies across time, whether seasonally or as a result of irregular shocks such as weather events or pandemics. Food insecurity may be chronic

or transitory. However, while both are interrelated, as McIntyre notes, they are not simply the flip side of each other as noted by McIntyre (2011). This is important in discussions on policy as according to Tolley and Ibrahim (2013) policies are only deemed effective if they identify the issue appropriately.

Accordingly, this literature review begins with an overview of the factors that impact food insecurity and food security of Inuit in Canada. Also, as food insecurity is a public health issue for the general Canadian population and for Inuit in Canada (Inuit Tapiriit Kanatami 2019, 2021; PROOF 2021) I then provide an overview of research on the associated health impacts of food insecurity. The combined health impacts and factors both influence and can form the basis of policy responses to improve the food security of Labrador Inuit in Nunatsiavut. Finally, this literature review includes a discussion on a rights-based approach to food security and the policies that pertain to food security and food insecurity for the general population and/or Inuit in Canada. In summary, this literature review will provide an overview of why the issue is important to address and what is known about the current policy approaches and issues. Food security/insecurity research that either includes or focuses on Nunatsiavut and Labrador Inuit has burgeoned in the last 15 years (see Appendix A). When possible, this review will draw from this body of work to show the unique context and considerations for Labrador Inuit.

2.1.1 Factors impacting food insecurity of Inuit

There are many factors that impact the food insecurity of Inuit. Some of these factors are consistent with those experienced by the general Canadian population. These include low wages and precarious work, low-income support rates, and high cost of living (Community Food Centres Canada 2021; Levi 2021; Inuit Tapiriit Kanatami 2016). Factors that were specific to Inuit in adults in Canada were identified in a review by Arriagada (2017). These factors included: gender, as women were more likely to be food insecure; marital status and children, as being a lone parent had a higher prevalence of food insecurity; those living in a crowded household; not completing high school; unemployment; a household income below the median; and weak family ties.

2.1.2 Factors impacting food security of Inuit

Power (2008) and Kuhnlein (2009) state that conventional food security measurement metrics do not include Indigenous Peoples' food systems. Since 2011, research results and reports

have shown factors that are relevant to food security of Indigenous Peoples in Canada. These factors include systematic racism and colonisation, high costs of food in northern communities, lack of available country foods and natural resources, climate change, and decreased participation in traditional food practices and harvesting skills (Community Food Centres Canada 2021; Council of Canadian Academies 2014; Ferguson 2011; Levi 2020).

Specific examples of some of these factors for Labrador Inuit in Nunatsiavut include food costs and lack of available country food. Data from the Newfoundland and Labrador Nutritious food basket showed that the average cost for feeding a family of four on the northern coast of Labrador (Nunatsiavut) is \$402.00 per week in comparison to \$276.00 per week for a family of four in the same health region of the province (Newfoundland and Labrador 2018). Moreover, recently, the loss of the George River caribou herd in Labrador, has caused a loss of country food and loss of participation in traditional food practices and harvesting skills.

Recent discussions and publications on historical policies such as residential schools have shown the impact on the current food security status of Inuit and Indigenous Peoples more broadly, through the loss of traditional food skills and disconnection from the land (Truth and Reconciliation Commission of Canada 2015; Proctor 2020). These specific differences that are relevant to Labrador Inuit exemplify why approaches to improving food security require tailoring to not only Indigenous Peoples in Canada, but also regional tailoring to meet their needs, which in this instance is Labrador Inuit in Nunatsiavut.

2.2. Food insecurity and Inuit health

The relationship between food insecurity and health is complex as it is difficult to draw causality. This is mainly due to study designs that do not follow individuals over time and accordingly it is difficult to determine if “food insecurity is a cause or outcome of poor health, or if it is related to another issue” (PROOF 2021, para 3). One unique consideration for Inuit is not only the impact of market foods on health: but also, the loss or transition away from country foods and the resulting health impacts.

The change from country foods to market foods is referred to as the nutrition transition (Kuhnlein et al., 2004; Egeland et al., 2011). Among Inuit in Canada, this nutrition transition has occurred due to economics, settlement in communities, cultural, environmental, and policy factors (Chan et al., 2006; Wesche and Chan 2010; Kenny 2018b). This transition has affected Inuit diet

quality and all aspects of Inuit health. In this literature review, the discussion of associated health impacts of the nutrition transition and diet quality are separated by physical health and mental and spiritual health. They are discussed in separate sections to support an understanding of impact; however, I recognize that a person living with food insecurity may experience many of these impacts at the same time.

2.2.1 Nutrition transition and diet quality

Since the beginning of research on country foods in the early 1900s to the present day, the positive impact of country foods on the diet quality of Labrador Inuit has been a consistent observation or research conclusion. In the early 1900s the lack of nutrient deficiencies (notably vitamin A, thiamine and Vitamin C) observed among Labrador Inuit was attributed to their high-quality diet of country foods (Hutton 1909; Waugh 1928; Cuthbertson, 1947). Recent studies that have included Labrador Inuit by Kenny et al. (2018a) demonstrated that when Inuit consumed caribou, it was a significant source of protein, iron, zinc, copper, riboflavin, and vitamin B12. Moreover, Results of a dietary study completed by Kuhnlein et al. (2004) showed that on days when country food was consumed the participant's intake was healthier as they had a higher energy, protein, vitamin, and mineral intake including three times as much vitamin D.

However, the diet quality of Inuit has been impacted by the nutrition transition and these impacts have been further exacerbated by food insecurity. Three studies have identified the impact of food insecurity on diet quality. Two of these studies utilized data obtained from a cross-sectional survey of 1,901 Inuit households from 2007 to 2008. The survey measured food security, 24-hour dietary recalls, socio-demographics, and anthropometry. Zhou et al. (2011) in their study that focused on Inuit in Canada, reported a higher trans fatty acid intake and lower fibre intake for Inuit participants living with food insecurity. Huet, Rosol, and Egeland (2012) stated that participants that were identified as food insecure had a lower healthy eating index, consumed fewer fruits and vegetables, grain, and dairy products, and consumed more of their energy from higher energy food. Akande et al. (2015) completed a systematic review on factors that influence dietary and physical activity behaviours among Canadian Inuit. They identified 45 studies in their review. The authors concluded that rapid social, cultural, and environmental changes in the Arctic have altered both physical activity and dietary patterns. The changes in diet include a shift from traditional food to store-bought foods, and diet intake is also affected by low socioeconomic status and high

transportation costs that impact food availability. Beyond nutrient quality, studies on food insecurity among Inuit in Canada show that Inuit adults and children are skipping meals, which affects overall diet quality (Furgal et al., 2017; Arriagada 2017).

2.2.2 Food insecurity and physical health

This section provides an overview of the associated physical impacts of the nutrition transition and food insecurity. The impact of the nutrition transition among Inuit has been associated with an increased risk of chronic disease, namely type 2 diabetes and obesity. Also, while not specific to Inuit, I also provide an overview of a conceptual framework that proposes a mechanism of experiencing food insecurity with an increased risk for chronic disease later in life. This framework is included in this literature review as it is based on a life course perspective that is part of the ecosocial theory of disease distribution.

The first noted health impacts of the nutrition transition were in dental health as changes in diet were attributed to increased dental caries when Labrador Inuit consumed a more European diet and specifically a diet higher in carbohydrate (Waugh 1928). Later, dental caries amongst Labrador Inuit remained an issue (Zammit et al., 1994) and continued to be attributed to diet changes such as increased soft drink consumption. However, another observation over time that occurred among Inuit in Canada, was an increase in Body Mass Index measurements. In a study that compared Body Mass Index measurements taken ten years apart of Inuit in Canada (Kuhnlein et al., 2004; Sheikh 2011) results showed an overall increase in Body Mass Index for all populations but especially older women and men. While this change could be associated with a change in dietary intake, the association with food insecurity is not as clear.

Zienczuk and Egeland (2012) completed a study on Inuit in Canada (that included Labrador Inuit) and measured a Body Mass Index and the correlation with socioeconomic status. The results showed that a higher Body Mass Index was not attributed to a lower socioeconomic status. For Inuit, Zienczuk and Egeland (2012) attribute this observation to socioeconomic status to factors such as greater physical activity due to not owning a vehicle, not being able to afford gasoline for the vehicle, not having a sedentary job, and due to spending more time hunting and harvesting food (Zienczuk and Egeland 2012). Furthermore, in the same study, a gradient is observed where odds of an at-risk Body Mass Index increase if both an Inuit language and English are spoken at home and further increase if only English is spoken at home. These results suggest that a higher

level of acculturation is associated with higher odds of developing an at-risk Body Mass Index and not the degree of food insecurity. However, recent reviews on food insecurity and health have noted that an increased risk of a higher Body Mass Index is associated with food insecurity (Council of Canadian Academies, 2014). Therefore, the association with an increased Body Mass Index and food insecurity remains an area of further investigation.

Inuit in Canada have approximately the same prevalence of type 2 diabetes as the general Canadian population (Public Health Agency of Canada 2011). Within the general Canadian population, one study showed that adults in food insecure households had two times a higher risk of developing type 2 diabetes compared to those in food secure households (Tait et al., 2018). Therefore, while food insecurity and diet quality can be considered factors that increase the risk of type 2 diabetes for the general population however further research is required to determine if there is an association amongst Inuit in Canada.

While not Inuit-specific, Laraia (2013) has proposed a conceptual framework that describes the influence of household food insecurity on the risk of developing of chronic disease later in life. This framework posits, that the conditions under which household food insecurity may lead to the development of metabolic and chronic disease outcomes include: 1) Household food insecurity is a chronic stressor; 2) This stress promotes an individual stress response; 3) The stress response results in preference for and consumption of highly processed foods due to the release of cortisol, neuropeptide Y and other substances contributing to a desire to consume high-energy dense foods and altered metabolism; 4) The evoked stress response during periods of development leads to visceral fat accumulation, insulin resistance, or diet-induced obesity that may result in increased risk of chronic disease.

This framework suggests that food insecurity may have a more severe impact on individuals during critical development periods and on individuals with a certain phenotype that efficiently stores energy. Moreover, exposure to food insecurity at one point and time can predispose an individual to poor health outcomes later in their lifetime (Laraia 2013, 210). While this framework has not been validated within Indigenous populations, it does offer another perspective on the link between the stress of food insecurity with an increased risk of chronic disease later in life. This perspective differs from discussions on food insecurity and chronic disease as noted above that that focus on the concurrent presence of these two conditions and their

association. This framework also links mental health and physical health impacts of food insecurity.

2.2.3 Food insecurity and mental and spiritual health

Food insecurity has also been associated with impacts on mental health and worsened mental health outcomes. A 2019 study that included Inuit in Canada showed that among low-income Canadians, food insecurity was associated with 40.2% of psychological distress, 26.7% of suicide ideation, and 13.4% of suicide attempts (Hajizade, Bombay, and Asada 2019). A 2020 study that measured the psychological distress in Inuit adolescents in Nunavik, northern Quebec showed that of the 212 participants from the Nunavik Child Development Study, concurrent severe household food insecurity in adolescence was associated with higher measures of psychological distress including depression and a withdrawn attitude. Also, persistent household food insecurity at both childhood and adolescence was associated with higher levels of adolescent depression (Bradette-Laplanche et al., 2020). However, it is not only the lack of access to market food that impacts the psychological health of Inuit, but also lack of access to country food.

As stated previously, currently in Labrador, there is a caribou hunting ban in place due to a decline in the George River caribou herd. Not being on the land to hunt negatively impacts spiritual health and sense of identity for Labrador Inuit (Pufall et al., 2011). Moreover, Labrador Inuit are experiencing ecological grief due to the mental health impacts of climate change (Cunsolo et al., 2020). Ecological grief is the “grief that is felt in relation to experienced or anticipated ecological losses, including the loss of a species, ecosystems, and meaningful landscapes due to acute or chronic environmental change” (Cunsolo and Ellis 2018, 275). All the pathways of ecological grief, including the grief associated with physical ecological losses and attendant ways of culture and life, the grief associated with the disruptions in environmental knowledge systems, feelings of loss, and identity, as well as the grief associated with anticipated future losses of place, lands species, and culture are relevant to the current hunting ban placed on the George River caribou herd. This hunting ban has resulted in losses to hunting, food, and cultural practices in both the present and potentially in the future. The worry over future loss means that future generations may never experience a caribou hunt, may not know the taste of caribou meat, and may lose all the knowledge developed and passed on for thousands of years that Inuit have about caribou (Cunsolo et al., 2020). Therefore, the current lack of wildlife and concerns about climate

change impact are associated with food security concerns and impact the mental health of Labrador Inuit.

In summary, in the general Canadian population, food insecure individuals may experience stress from material deprivation due to low income. For Labrador Inuit, this can be compounded due to a lack of available country food to hunt and has a negative impact on mental and spiritual health.

2.3 From rights to reality: Policies that pertain to food security of Inuit in Canada

2.3.1 A human rights approach to improving food security of Inuit in Canada

The right to food is part of the broader discussion on improving food insecurity. For Inuit, a rights-based approach to food security can encompass the right to food. However, the right to food for Inuit, has a specific context as it includes country foods and a cultural component (Inuit Circumpolar Council and Inuit Tapiriit Kanatami 2011). Moreover, the right to access country food is part of an Indigenous rights to their land and is often discussed as food sovereignty. The right to food and the right to Indigenous Peoples lands are contained in conventions to which Canada is a signatory.

The earliest convention is in the 1948 Universal Declaration on Human Rights, specifically article 25 1 that states “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control” (United Nations General Assembly 1948). The 1966 International Covenant on Economic and Social Rights, specifically article 11.1 states, “The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international co-operation based on free consent.” (United Nations General Assembly 1966).

To ensure a consistent understanding of adequate food, the Committee on Economic, Social and Cultural Rights stated defined adequate food as the availability of food in a quantity

and quality sufficient to satisfy the dietary needs of individuals, free from adverse substances, and acceptable within a given culture. The accessibility of such food in ways that are sustainable and that does not interfere with the enjoyment of other human rights (Committee on Economic, Social and Cultural Rights 1999).

As noted by the Inuit Tapiriit Kanatami (2021), Canada has also ratified other conventions that confirm the right to food for various populations. These include Convention on the Elimination of All Forms of Racial Discrimination Against Women (United Nations General Assembly 1979), whose preamble recognizes that women living in poverty have the least access to food, health, education, training and opportunities for employment and other needs. Also, the Convention on the Rights of the Child contains article 24 that affirms the right of every child to adequate nutritious foods (United Nations General Assembly 1989). As Canada is a signatory to the above-mentioned United Nations conventions, there is legal obligation for Canada to protect and fulfill the right to adequate food.

With respect to Indigenous Peoples in Canada, in 2016, the Government of Canada signed and agreed to fully implement the United Nations Declaration on the Rights of Indigenous Peoples (Duncanson et al., 2021). The United Nations Declaration on the Rights of Indigenous Peoples is a non-binding international instrument that contains articles that provide the minimum standards for the survival, dignity, and well-being of the Indigenous Peoples of the world. The United Nations Declaration on the Rights of Indigenous Peoples extends beyond rights to adequate food and is consistent with the discussions on food sovereignty that recognizes the rights of Indigenous Peoples to develop and own food systems (United Nations 2007).

The focus on rights is also embedded in the definition of food security. The definition of food security evolved over time. In 1974 the initial focus of the food security definition was on the volume and stability of foods (United Nations 1975). In 1981, Nobel Laureate Amartya Sen published his seminal thesis “Poverty and Famines: An Essay on entitlement and Deprivation” where he argued the poor may lack entitlements to food under conditions of high process and low demand for labour, even if food supplies are sufficient (Sen 1981). According to the Food and Agricultural Organization (2003), entitlement as a construct introduces the human rights dimension into the food security discussions. The focus on entitlement and by proxy human rights resulted in the second iteration of the definition of food security in 1983 and the line in the current

definition of food security that states, ‘ensuring that all people at all times have both physical and economic access to the basic food that they need’ (Food and Agriculture Organization 1983).

In 2012, the UN Rapporteur on the Right to Food, visited Canada. During De Schutter’s 2012 visit to Canada, he reminded Canada of its obligation to the right to food. To prepare for his visit, Inuit in Canada wrote and submitted a separate document on the Inuit right to food (Inuit Circumpolar Council and Inuit Tapiriit Kanatami 2011). Within this document, The Inuit meaning for the right to food “extends far beyond economic, nutritional, and physical accessibility to include cultural importance. The hunting, harvesting, and sharing of country food is integral in providing social cohesion and cultural continuity for Inuit communities. Inuit livelihoods have historically been and continue to be defined by a deep relationship to the environment and the resources it provides (Inuit Circumpolar Council and Inuit Tapiriit Kanatami 2011, 7).

And while a human rights discussion is an important place to start it does not guarantee action. The philosopher Onara O’Neill noted that “It can be mockery to tell someone they have the right to food when there is nobody with the duty to provide them with food. That is the risk with the rights rhetoric. What I like about choosing the counterpart, the active obligation of duties rather than the rights, you can’t go on and on without addressing the question who has to do what, for whom, when”. The quote highlights the importance of examining policies that pertain to food security and determine who is doing what for whom. (O’Neil 2002 in Food and Agricultural Organization 2003, para 39). Policy and legislation are the mechanisms that can take the rights-based discourse on Indigenous Peoples rights or the right to food from discussion to action.

2.3.2 Policies that pertain to food security of Inuit in Canada

Determinants of health, such as food security for Inuit, “are shaped by historical and contemporary policies, law, governance, investments, culture, and norms” (National Academies of Sciences 2017, 38). It can also be shaped by the absence of policies and laws. During the 1996 Food and Agriculture Organization’s World Food Summit, Canada reaffirmed the right to food and participated in developing the plan of action for food insecurity among countries. This resulted in the development of Canada’s Action Plan for Food Security in 1998 (Canada 1998). This action plan contained six domestic commitment areas, consisting of the following: an enabling environment, access to food, sustainable agriculture and rural development, trade and food

security, emergency prevention and preparedness and promoting investment. The report also contained ten priorities. A few of the relevant priorities to Indigenous Peoples in Canada are the right to food (priority one), the reduction of poverty (priority two) and traditional food acquisition methods of Aboriginal and coastal communities (priority five). Commitment two included the priorities breastfeeding promotion, a focus on the traditional food acquisition methods of Aboriginal and coastal communities. This commitment also included “the reduction of poverty priority and stated that Canada’s social programs are designed to help vulnerable people fulfill their basic needs, and provide a basic level of services, such as health” (Canada 1998, 11). However, this report also notes that “Governments must follow a balanced approach of social investments and prudent financial management” (Canada 1998, 11).

From a legislative perspective, food, clothing, and shelter were a part of basic human needs within the 1966 Canada Assistance Plan. However, the Canadian Assistance Plan was repealed in 1996, and replaced by the Canada Health and Social Transfer. In 2004, further changes ensued, and the Canada Health and Social Transfer was replaced by the Canada Health Transfer and Canada Social Transfer. The Canada Social Transfer provides block funding for all social and education programs, but still has the accountability issues of the Canada Health and Social Transfer that include the reduced federal conditions on provincial spending and the allowance of provinces to make cuts to welfare programs (Canadian Association of Food banks 2004; Canada Council on Social Development 2004).

Therefore, while Canada was committing to reducing poverty, the reality was policy changes were weakening the social safety net (Rideout et al 2007). The Government of Canada produced five progress reports on the World Food Security Commitments, with the last report completed in 2008. Mah et al. (2014) completed an analysis of these five reports (Canada 1999, 2002, 2004, 2006, 2008). Their analysis show that the reports changed over time. The first three reports adopt a narrative form and provide updates on the seven commitments in the original action plan. However, reports four and five, while they continue to list the seven commitments, they do not mention the priorities, and implementation updates are converted to tables. Finally, the fifth report does not mention the seven commitments. Moreover, state that the “Aboriginal peoples’ experience of food insecurity is virtually reproduced from report to report.” (Mah et al, 2014, section 11 para 8).

The weakening of the social safety net has been the focus of many policies that pertain to food insecurity within the general Canadian population and also pertain to Inuit in Canada. Tait et al. (2018) and Tarasuk and Mitchell (2019) have attributed current inadequate social program benefits to an increase in food insecurity among the general Canadian population. The Inuit Tapiriit Kanatami (2011) has acknowledged the impacts of these programs on food insecurity for Inuit in Canada. The key factor contributing to food insecurity within social programs is inadequate benefits that do not provide adequate income.

Research in the last 15 years has shown that improvements in the degree of food insecurity for segments of the population have occurred with changes to social programs. Examples include the Canada Child Benefit tax. Using a difference in design and data from the 2015-2018 Community Health Survey, Brown and Tarasuk (2019) showed a reduced likelihood of households with children in Canada to experience food insecurity for those who received the Canada Child Benefit, especially for those who were Low Income Measure or less (DID: -4.7%, 95% CI: -8.6, -0.7) (Brown and Tarasuk 2019). In British Columbia, when social assistance benefits increased, namely an increase in welfare benefits from 2005 to 2007. Overall food insecurity and moderate and severe food insecurity declined among households on social assistance, but severe food insecurity remained unchanged (Na, Dachner, and Tarasuk 2016). In Ontario, following the launch of the 2007 Ontario Child Benefit and the 2008 Ontario Poverty Reduction Strategy, food insecurity declined significantly among families who received this benefit in 2009–2010 (26.6%) and 2011–2012 (25.1%) compared with 2005 (32.7%) (Tarasuk, Li, Dachner, and Mitchell 2019).

Finally, in Newfoundland and Labrador, implementing a poverty reduction strategy that had several policy interventions including increasing income support rates, allowable earnings and assets, a low-income tax threshold, as well as providing more affordable housing and health benefits such as childcare, improved the food insecurity status of income support recipients (Loopstra, Dachner, and Tarasuk 2015). These studies have shown that some interventions can impact food insecurity for certain populations. However, that these impacts and outcomes may differ in mixed economies (Kenny 2018a) and therefore it is important to address the array of factors that contribute to food security of Inuit through a variety of policy instruments.

Also, as stated previously, Inuit consider food a human right and have called for policies and programs to ensure Inuit can realize this right. Despite the presence of market food in the modern Inuit diet, country food remains at the centre of Inuit identity and well-being” (Inuit

Circumpolar Council and Inuit Tapiriit Kanatami 2011, 7). Moreover, in support of the United Nations Declaration on the Rights of Indigenous Peoples, the rights to lands are also a consideration for improving the food security and supporting the food sovereignty of Inuit. Due to the differences in these approaches to rights, it is imperative that Inuit focus on the broader domains of food security and not only economic aspects, as often cited in the definition of food insecurity.

To support achieving this right to food and the rights of Indigenous Peoples in Canada there are a mix of policies that extend beyond social policies, and some pertain to only Labrador Inuit. Starting at a regional level, the Labrador Land Claims Agreement pertains to all aspects of food security, including governance and control of Labrador Inuit Lands. The Labrador Inuit Land Claims Agreement is a treaty and a land claims agreement within sections 25 and 35 of the Constitution Act, 1982 (Canada n.d.). The Labrador Inuit Land Claims Agreement is ratified, given effect, declared valid, and has the force of law. The agreement outlines the rights of Labrador Inuit to their lands and their relationship with both the Province of Newfoundland and Labrador and the Federal Government of Canada. After the Labrador Inuit Association signed the land claims agreement, they formed the Nunatsiavut Government, which now provides health and other services to the Nunatsiavut Region.

On a national scale, Canada's Fifth Report on Food Security (Canada 2008) highlighted two programs with a food security focus specific to Indigenous Peoples—the Canada Prenatal Nutrition Program (Canada 2021) and the Aboriginal Diabetes Initiative (Canada 2021). The Inuit Tapiriit Kanatami also noted these programs on their website (Inuit Tapiriit Kanatami 2021). However, it is difficult to ascertain if these programs improve food security as the evaluations of these programs have not included a focus on food security, but rather an increase in knowledge and skills and overall health and well-being (Canada 2021).

A research study focused on Inuit and food insecurity policy from Nunavut included the former Food Mail program and health education programs (Myers, Powell, and Duhaime 2004). In a review of policies and Inuit food (in)security, Ferguson highlighted policies such as the Climate Change and Adaptation Program and the Community Freezer program (Ferguson 2011). However, neither of these studies evaluated the policy impact, but rather provided an overview of the respective policies.

Arguably, the most studied policy pertaining to food security for Inuit is the Nutrition North Canada program, formerly the Food Mail program. Recent research studies that focused on the Nutrition North Canada program have deemed the program ineffective, primarily because of the market driven model on which it is based. This model does not reduce social inequity, as it prioritizes the interests of retailers and suppliers that receive subsidies rather than the goal of making nutritious food more available that can improve Inuit health. Specific issues with the program include a lack of transparency in how the subsidy operates, inadequate methods for monitoring program success, a lack of an evidence base and lack of program responsiveness. Moreover, due to the method for subsidizing foods that is based on weight, there is regional variation in the amounts of full subsidies to communities that are involved with the program and regional variation on food costs (Chin-Yee and Chin-Yee 2015; Galloway 2014, 2017; Inuit Tapiriit Kanatami 2016). The Inuit Tapiriit Kanatami noted that while one policy cannot improve food insecurity, the Nutrition North Canada program requires significant improvements to achieve its goal of improving food insecurity (Inuit Tapiriit Kanatami 2016). Of note, is that for the policies identified, it is difficult to determine their impact on food insecurity of Inuit. In fact, more issues rather than progress have been noted on the evaluations of these policies. However, policy recommendations continue to evolve. Therefore, in this section, I also include an overview of recent policy frameworks that provide further direction for policy development and implementation.

Besides the policies listed above, there are policy documents developed by Inuit, including Labrador Inuit, which provide policy recommendations. The frameworks and strategies include *Nutrition North Program Engagement, Written Submission* (Inuit Tapiriit Kanatami 2016), *An Inuit Specific Approach for the Canadian Food Policy* (Inuit Tapiriit Kanatami 2017), *Arctic and Northern Policy Framework: Inuit Nunangat* (Inuit Tapiriit Kanatami 2019), *Recommendations on Northern Sustainable Food Systems* (Northern Indigenous Economic Development Board 2019), *Recommendations on Country/Traditional Foods from the Northern Policy Hackathon* (Gordon Foundation 2017) and an *Inuit Nunangat Food Security Strategy* (Inuit Tapiriit Kanatami 2021) that has a separate section focused on legislation and policy. Among these policy documents is a consistent recommendation for self-determination of Inuit food systems and co-development of food policies. Other specific recommendations include improving income support through introducing a northern basic income support and at the very least, ensuring income support and

social programs are adequate to attain a right to food, improving infrastructure for food procurement and transportation, focusing on local harvesting, and procurement of a transportation system for local foods (Gordon Foundation 2017; Inuit Tapiriit Kanatami 2016, 2107, 2019, 2021; Northern Indigenous Economic Development Board 2019).

Among the policy frameworks developed by the Government of Canada, three federal policy frameworks have cited the Commitment to Truth and Reconciliation, and Inuit in Canada have provided their own submissions to these frameworks (Inuit Tapiriit Kanatami 2016, 2017, 2019). These frameworks include the national Poverty Reduction Strategy (Canada 2021) that has a chapter focused on Indigenous perspectives on poverty, the Food Policy for Canada that includes a focus on Indigenous food systems in Canada (Canada 2019), and an Arctic Policy framework that focuses on northern populations in Canada (Canada 2019). While there is a focus on Inuit, the Inuit Tapiriit Kanatami critiques the Poverty Reduction Strategy as not being relevant to Inuit due to the measurement of poverty and the Food Policy for Canada as only focusing on certain aspects of the Inuit food system (Inuit Tapiriit Kanatami 2021).

The call for Indigenous self-determination is consistent with the United Nations Declaration on Indigenous Peoples. On June 16, Canada's Senate passed Bill C-15, the *United Nations Declaration on the Rights of Indigenous Peoples Act* into law. This Act received Royal Assent on June 21 and provides the groundwork for enshrining these rights into law. Also, an action plan must be prepared by a Minister designated by the federal Cabinet to achieve the objectives of the United Nations Declaration on the Rights of Indigenous Peoples in consultation and cooperation with Indigenous Peoples and other federal ministers within two years (Duncanson et al., 2021).

The formation of the Inuit Crown Partnership Committee, which a partnership between Inuit in Canada and the Government of Canada, has food security as one of its priorities. The Inuit Crown Partnership Committee is guided by a specific Inuit food security working group that aims to use evidence-based analysis to create food security programs and interventions that recognize and address vulnerabilities in the Inuit food system and improve Inuit food security through transparent and accountable Inuit–federal partnerships (Inuit Tapiriit Kanatami 2021, 14). As this partnership has recently been formed, it can be considered more of a promising practice and in time, the impact on food security can be determined. However, regardless of outcomes, the existence of such a partnership represents a change in engagement between the Federal

Government of Canada and Inuit in Canada and change in guidance on the needs and priorities of Inuit in Canada to develop policies that address food security of Inuit in Canada.

2.4 Conclusion

This literature review summarized the impact of a lack of food security on aspects of health, the factors that impact the respective dimensions of food security, and some of the unique considerations for Inuit from a rights and policy perspective as it pertains to achieving the right to food and achieving food security. While there are commonalities, the scope of policies that pertain to food security must be considered on a regional basis as each land claim area has a different relationship with the respective province or territory and the Government of Canada. These relationships influence the type of policies implemented and the processes that support the policy development and implementation processes. Hence, the importance of examining the past and current policies that pertain to Labrador Inuit as this thesis topic.

Chapter 3: Methodological overview

3.1 Research project engagement with the Nunatsiavut Government

In 2018, the Inuit Tapiriit Kanatami released a National Inuit Strategy on Research (Inuit Tapiriit Kanatami 2018). This strategy identified five priority areas that “require coordinated action to facilitate Inuit Nunangat Research that is efficacious, impactful, and meaningful to Inuit” (Inuit Tapiriit Kanatami 2018, 5). This research project aligned with priority two—enhance the ethical conduct of research—and priority three—align with Inuit research funding priorities. Moreover, the Nunatsiavut Government has a Nunatsiavut Government Research Advisory Committee (Nunatsiavut Government Research Advisory Committee 2021). This committee meets monthly to review research applications. The research application includes a non-technical proposal that outlines the purpose, methods, and timing of the proposed research, the value of the project to Nunatsiavut, a communication strategy for research results, and any relevant licenses and permits required for the project. The researcher must receive permission from the Nunatsiavut Government Research Advisory Committee before they can undertake any research within the land claims areas.

This research project strived to undertake a community-based participatory research approach. At its core, community-based participatory research creates necessary partnerships within a research team that prioritizes the needs of those directly affected by the issue of interest. The principles of community-based participatory research include recognizing the community as a unity of identity, building on strengths and resources of the community, and facilitating collaborative partnerships in all phases of research. It also involves a cyclical and iterative process addressing health from both positive and ecological perspectives, and disseminates findings and knowledge gained to all partners (Dawson, Toombs, and Mushquash 2017). Within this research project, the community was not defined as a physical geographic community but rather, a community of policy actors within the Nunatsiavut Government. I also borrowed from Indigenous Methodologies namely, the emphasis on relationship building and relational accountability, to guide engagement with the Nunatsiavut Government Advisory Group (Smith 1999; Wilson 2008).

Engagement with the Nunatsiavut Government was a core component of developing and conducting this research project. The Nunatsiavut Government was approached at the inception of the research concept in the summer/fall of 2016. The initial concepts were discussed with the research advisor and food security coordinator. After a research topic was agreed upon, two Nunatsiavut Government representatives from the Department of Health and Social Services Development initially served as advisory group members. This advisory group reviewed and provided feedback on the thesis proposal and attended the thesis proposal defence. They also provided advice on the process for the research project review within Nunatsiavut.

After the research project was initiated and the scoping review was completed, it became apparent that due to the breadth of the food security topic, an expansion of the advisory group membership was required to include representation from other areas within the Nunatsiavut Government. The advisory group was expanded to include six representatives from the Departments of Culture, Intergovernmental Affairs, Wildlife, Environment, and Economic Development within the Nunatsiavut Government. The expanded advisory group remained in effect until the end of the research project. The members provided feedback on the research interview questions, reviewed drafts of each study, and provided expertise on an ad hoc basis with respect to their separate subject areas. In addition to working with the advisory group, briefing notes and presentations were prepared for the Deputy Minister of Health and Social Development and provided to an advisory group member when requested. Finally, one of the thesis committee members who advised on the articles in this thesis is a Nunatsiavut Beneficiary. In summary, representatives from the Nunatsiavut Land Claims Area and the Nunatsiavut Government were engaged and served in an advisory capacity from the inception through to the completion of this thesis. However, there was no formal community engagement, which was intentional. At the time of this thesis, a concurrent engagement process within Nunatsiavut was underway to support a Nunatsiavut food security strategy and there was a request to ensure the processes did not overlap. Therefore, this process respected the direction provided by the Nunatsiavut Government Advisory Group.

This research project received initial University of Ottawa Ethics Approval in December 2019. After discussions with the Nunatsiavut Government Advisory Group, the scope of the project changed slightly from the initial proposal. As a result, a revised ethics application was submitted to the University of Ottawa in October 2020 and the Nunatsiavut Government Research

Advisory Group in December 2020. The University of Ottawa granted another ethics approval on November 14, 2020 (see Appendix B) and the Nunatsiavut Government Research Advisory Group granted approval for the research project on March 12, 2020 (see Appendix C).

3.2 Method summary and justification

3.2.1 Interpretive framework

Critical theory is the interpretive framework for this research project. This theory is often used to emancipate or liberate and suggests that reality is known through the study of social structure, freedom, power and oppression, and control, and that it can be changed through research (Creswell 2013). Ontologically, critical theory assumes that social reality is socio-culturally constituted in an open-ended process of constitution, organization, transformation, and evolution. The epistemological beliefs of critical theory suggest that reality is known through the study of social structures. However, understanding social structures is not the only intent, but rather to change the structures and current reality through research (Strydom 2011). Furthermore, critical theory values a diversity of opinions to understand various standpoints (Creswell 2013).

I chose this interpretive framework for this research project, as Inuit identify food security is a social determinant of health for Inuit and it is impacted by social and economic structures. Also, it is consistent with the intended outcome of this project—recommendations for future changes to policies that pertain to food security. Critical theorists ask people in a social group, culture, or organization to reflect on their current experiences (Cohen and Crabtree 2006). Accordingly, the interpretive framework informed the research methods that provided an opportunity for conversation and reflection; this in turn allowed for questioning of the current state and the orders that maintain the current status.

Holmes (2020, 2) describes positionality as “a description of an individual’s world view and the position they adopt about a research task and its social and political context”. Moreover, positionality can be identified by locating the researcher in three areas: (1) The subject under investigation; (2) The research participants; (3) The research context and process (Holmes 2020, 2). I used these questions as a basis to describe my positionality.

The subject in this research project is food security. My relationship to the subject started prior to my formal work as a dietitian when I worked with homeless youth and for the first time

was exposed to a population that did not have access to food. During my first position as a regional community dietitian, there was an increased focus on food security through community-based projects and provincial committees. It was the beginning of the focus on food security, but it was not enough as I continued to work on an individual basis with clients who continued to experience issues accessing food throughout Labrador, including what is now Nunatsiavut. I have professional experience working in the area of food security but I was increasingly frustrated with the lack of impact I could make in my role.

The research participants are policy actors. I too have been a policy actor—for 15 years—albeit within a different context. These policy roles within the federal government have focused on nutrition, chronic disease and/or other aspects of Indigenous health. Therefore, I could understand the policy context but was not part of the policy actor community focused on this issue.

As for the research context, I am familiar with the overall context as I am from Labrador and in fact, began my professional career in Labrador. However, components of the context have changed as the Nunatsiavut Government continues to evolve and provide a different scope of services and there is a different policy context at this time. With respect to the research process, this was new to me as a researcher. I was committed to following the process and as noted in a future section, sought to work with representatives from the Nunatsiavut Government to guide me in this process. There is much discussion in qualitative literature about the insider and outsider perspective (Corbin Dwyer and Buckle 2009). Through reflecting on my positionality, I have been an insider at specific times, as I am from Labrador and have worked on the issue of food security and in policy roles. I feel attached to the issue and the area as it is my home. As this attachment could be construed as bias; I had to continually reflect on my role and relationship throughout the research project. This attachment also brings another type of pressure to complete high-quality research and brings forward a personal consideration of a knowledge translation (inside/outside positionality) aspect to the research findings. For the outsider context, I am not working in this specific area, nor within Nunatsiavut, and I am Caucasian. Therefore, I have distance from the issue and current context. One advantage to this insider/outsider positionality is that I have an awareness and sensitivity to the context and the issue but enough distance to support a more objective stance to this research project, which was approached with a sense of curiosity.

3.2.2 Research sequence

The Inuit Tapiriit Kanatami states that traditional knowledge is a living knowledge process that includes knowledge from the recent and distant past, knowledge that is being acquired today, and knowledge that will be acquired in the future (Inuit Tapiriit Kanatami 2012). While the studies within this research project are not considered traditional knowledge, the research sequence followed the living knowledge process. The first article, *Coming full circle: A critical review of the historical changes in governance, nutrition and food security of Labrador Inuit between 1500 and 2005* used process tracing that was adapted from the Royal Commission on Aboriginal Peoples four stages of colonization. The timeline started in the early 1500s at the reported point of first contact, to 2005, when the Labrador Inuit Land Claims Agreement was signed, and the Nunatsiavut Government was formed. This article used a critical dietetics lens to examine the impact of historical changes on the nutrition and food security status of Labrador Inuit in Nunatsiavut.

The second article, *Piecing together the Labrador Inuit food security policy puzzle in Nunatsiavut, Labrador (Canada): A scoping review*, focused on the present and consisted of scoping reviews that are a “form of knowledge synthesis, which incorporate a range of study designs to comprehensively summarize and synthesize evidence with the aim of informing practice, programs, and policy and providing direction to future research priorities” (Colquhoun 2014, 1291). It includes both published and grey literature. The scoping review followed the Joanna Briggs Methodology (Joanna Briggs 2015) as this framework has a high emphasis on consultation in the last stage, which is consistent with the community-based participatory approach. The purpose of the scoping review was to systematically identify any policy implemented in Nunatsiavut focused on Labrador Inuit that pertains to food security. A content analysis was then completed to map each policy against the four dimensions of food security (availability, access, utilisation, and stability) and to assess for gaps and/or policy overlap (i.e., one dimension with multiple policies). The results of this article served as a starting point for identifying policy actors for the final article of this thesis.

The third and final article, *Food security in Nunatsiavut: A matter of health equity*, consisted of gathering policy actors’ perspectives on current policy gaps and future policy recommendations for policies pertaining to food security in Nunatsiavut. This qualitative study utilized a thematic analysis of semi-structured interviews with policy actors at the national, provincial, and regional level from various governments, non-government organizations, and

private industry. Participants were identified through both purposive sampling as they were gleaned from the results of the scoping review. Participants were also identified through snowball sampling as each participant had an opportunity to provide suggestions for potential additional participants. Each participant was sent an invitation (Appendix D) and if they agreed to participate, they were sent a consent form (Appendix E). The interview questions were sent to each participant in advance of the interview. After interviews were conducted, participants had an opportunity to review their input to ensure it reflected their intention and provided an opportunity for any additional input (Brit et al., 2016).

3.3 Methodological issues

Throughout this thesis there were several issues noted that impacted the results of each study. While there is a discussion of limitations in each article, in this section I further discuss methodological issues in greater depth as at times, the article length prevented a fulsome discussion.

For the historical article, the greatest challenge was interpreting the historical literature and ensuring the interpretation for the first article did not reproduce harmful stereotypes of Labrador Inuit. To overcome this challenge, I reviewed the content with Labrador Inuit from Nunatsiavut to ensure the descriptions would not perpetuate harm and were accurate. I also reached out to authors of similar articles to gain insight into how to approach this work. Finally, I assessed each document for inclusion via the criteria for historical research that includes provenance, purpose, context, veracity, and usefulness as suggested by Wood et al. (2011) as a standard method of assessing the literature.

For the scoping review, the main methodological issue was the criteria used to identify a policy. As it had to explicitly pertain to Labrador Inuit, there were policies such as food safety or food regulations that apply to the entire province of Newfoundland and Labrador, or transportation that applies to the Labrador region. This prevented identifying and including policies that may otherwise be included in the scoping review. Also, due to COVID-19 travel restrictions, I could not complete any in-person interviews. Instead, I relied on Zoom and telephone interviews. This impacted my ability to observe body language and at times tone of voice. This had a greater impact on my reflections and observations.

Article three was a qualitative research article. According to Nowel, Norris, White, and Moules (2017), the common methodological issue cited in qualitative research is the trustworthiness of the results. To increase trustworthiness, there were several actions taken throughout the qualitative research process to improve the various aspects of trustworthiness: credibility, transferability, dependability, confirmability, and an audit trail (Nowel, Norris, White, and Moules 2017). How each one of these factors was addressed in this thesis and specifically within each research article is addressed in the following paragraphs.

Credibility refers to the fit between the respondents' views and the researcher's representations of them (Tobin and Begley 2004). To increase credibility, I had prolonged engagement with the data, and completed member checking and interpretations of results with participants. Transferability refers to the generalizability of inquiry (Tobin and Begley 2004). It is difficult to transfer the findings to another group of Indigenous Peoples. However, I used broad descriptions and quotes from participants as the themes. This was also important to ensure that as many participants' voices as possible were represented throughout the article and not only my interpretation of their input. And again, these themes were checked with participants.

Another key factor of trustworthiness is dependability. This outcome can be achieved when the research process is created and follows a clear and logical analysis plan; this includes an audit trail (Nowel, Norris, White, and Moules 2017). This process was implemented from the beginning for participants and myself, the researcher. For the participants, I sent the interview responses back to each person for review to ensure I had captured their responses correctly. I also provided participants with an opportunity to add or adjust any input as required. I did not include any data until the participant validated the data.

While completing these interviews I undertook actions to support a reflexive practice. These actions included writing my thoughts and expectations for each interview prior to the interview to identify any preconceived notions or bias. After each interview, I wrote a reflection in a journal entry. I completed this same process after I transcribed the interview. While transcribing, I had time to fully engage with the data—including listening to the interviewees tone of voice and emphasis on points that may have been missed during the initial interview. In summary, for each interview there was a pre- and post-journaling session to both challenge my assumptions and reflect on my new learnings. I also reflected on the research process overall and

my reactions to each article, as my positionality and relationship with the literature changed for each study.

For the data analysis itself, I first grouped the responses by questions (parent nodes) and answers (child nodes) (Saldana 2016). I then started coding responses and eventually had a code book developed from the data. For this section, I used NVivo 12 to develop the codebook and identified outliers and collapsed similar codes. For the similar codes, I illustrated their hierarchies, the sub themes, and eventually, the themes. Throughout the process there was also constant comparison with the raw data.

A limitation of this qualitative research project is that I completed the research independently. However, I did not indicate in the consent form that anyone else would review the data with me. For these reasons, I vetted the themes with my thesis advisor, thesis committee, and completed member checking with participants on the findings to increase the credibility of the findings and respect the privacy and anonymity of participants.

Chapter 4: Research results

4.1 — Article 1: Coming full circle: A critical review of the historical changes in governance, nutrition, and food security of Labrador Inuit between 1500 and 2005

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Coming full circle: A critical review of the historical changes in governance, nutrition and food security of Labrador Inuit between 1500 and 2005

Abstract

Labrador Inuit are an Indigenous People from northern Labrador, within the province of Newfoundland and Labrador, Canada. Prior to European contact, Labrador Inuit were self-reliant. However, historical relationships with Christian missionaries, the Government of Newfoundland and Labrador, and the Government of Canada impacted their relationship with food, access to food, and the physical and social health of Labrador Inuit. This review is based on the stages of colonization. It uses a critical dietetics lens to examine the extrinsic causes of nutrition and food security issues that resulted from colonization, and describes the interventions implemented to address them. Moreover, the review shows the resilience and adaptability of Labrador Inuit as they came full circle from self-sufficient Labrador Inuit in the 1500s, to sign the first Inuit land claim agreement in Canada and form the Nunatsiavut Government in 2005.

Key words: Labrador Inuit, nutrition, food security, policy, colonization

Introduction

Control of Indigenous Peoples,¹ their food sources, and lands has been an integral part of the historical colonial relationships between Indigenous Peoples and provincial and federal governments in Canada. The control of Indigenous lands is a specific type of colonialism as the settler “comes with the intention of making a new home on the land” (Tuck and Yang, 2012, 5). This colonial relationship impacted Indigenous Peoples’ food systems, their health, their relationship to food, access to food, and disrupted traditional food preparation methods (MacDonald and Steenback, 2015; FemNorthNet, 2016; Kim, 2019; Inuit Tapiriit Kanatami, 2017). Colonialism and racism are specific determinants of health for Indigenous Peoples (Czyzewski, 2011; King and Gracey, 2009). More recently, call to action 18 from *The Truth and Reconciliation Commission of Canada*, “calls upon governments to acknowledge that the current state of Aboriginal health in Canada is a direct result of previous Canadian Government policies” (Truth and Reconciliation Commission of Canada, 2015, 2). Recent studies have attributed historical disruptive nutrition interventions and nutrition-related policies on Indigenous Peoples’ health to higher rates of type 2 diabetes and greater inequities among Indigenous Peoples in Canada (Kim, 2019; Mosby and Galloway, 2017; Wilk, Mabtley and Cooke, 2017; Inuit Tapiriit Kanatami, 2017). Each Indigenous group in Canada has their own historical relationship with respective governments; these relationships and policies warrant their own examination to understand the past and inform current, and future, nutrition and food security interventions.

Canada has ten provinces and three territories. Within these provinces and territories there are four Inuit land claim areas, collectively known as Inuit Nunangat. The Labrador Inuit² land claim area is Nunatsiavut. This land claim area is geographically in northern Labrador, on the mainland of the Province of Newfoundland and Labrador (Pederson, 2016). Newfoundland and Labrador was the last province to join the Confederation of Canada in 1949 (Baker, 1987). After 30 years of negotiations between the Labrador Inuit Association and federal and provincial governments (Pederson, 2016; Nunatsiavut Government, 2020), the Labrador Inuit Land Claims Agreement was signed. It is the first Inuit land claim and self-government agreement in Canada

¹ The term Indigenous Peoples is used to refer to Indigenous Peoples in Canada unless quoting a specific historical reference that may use different terminology.

² The term Labrador Inuit is used in this paper unless quoting a specific historical reference that may use different terminology.

and led to the formation of the Nunatsiavut Government in 2005 (Nunatsiavut Government 2021a; Nunatsiavut Government 2021b).

Several historical nutrition studies focused on Newfoundland have included health and political perspectives (Hanrahan, 2003; Little, 1912; Little, 1917; Cuthbertson, 1947; Overton, 1998; Strikwerda, 2018; Kealy, 2006). However, few (Hanrahan, 2008; Hutton, 1909; Waugh, 1928) have focused specifically on Labrador Inuit. This critical historical review traces changes in the governance of Labrador Inuit by missionaries and governments, the evolution of nutrition-related health issues, and the evolution of food security as an issue within Nunatsiavut due to decreased food access and availability, and a lack of stability (Food and Agricultural Organization, 2008). Finally, it provides an overview of the resulting nutrition and food security interventions designed to address these identified issues. The time frame for this historical review spans from 1500 until 2005.

Methods

This review employs a critical dietetics lens that is “grounded in critical theory and proposes broadening the dietetics lens beyond traditional/dominant paradigms” (Gingras et al., 2014, 3). It provides a holistic view of nutrition and brings together diverse political, social, and health perspectives to “examine the world that generates nutrition problems” (Kent, 1988, 3). To identify the literature, Scopus, Web of Science, and Google Scholar were searched using the terms “Labrador Inuit and Nutrition”, “Newfoundland and Nutrition History”, and “Labrador Inuit and Moravian Mission”. Several journals were hand-searched including *Newfoundland and Labrador Studies*, *Journal of Moravian Mission*, and *Inuit Studies*. Additionally, the following websites were searched: Memorial University of Archives Initiative, Indigenous Studies Portal Research tool, Newfoundland and Labrador Heritage, Federal Government of Canada, and the Nunatsiavut Government. Primary sources included research studies, historical government reports, and newsletters. Secondary sources that cited primary sources were used when original documents were in another language, or the original document could not be accessed due to physical limitations. In total, 47 documents were identified and included in the analysis. The criteria proposed by Wood (2011) for historical research—provenance, purpose, context, veracity, and usefulness—were used to evaluate each document. When a document met at least one of the listed criteria, it was included for analysis. To improve data reliability and address any identified research

gaps in document sources, two discussions were also held with two individuals from Labrador with extensive knowledge of the region and various aspects of this topic. Also, drafts of this study were reviewed, and feedback was provided by people from Nunatsiavut with historical knowledge of the region, including members of an advisory group for this research project. Both the University of Ottawa and the Nunatsiavut Government Research Advisory Committee granted research ethics approval.

This review is based on the premise that over time, colonialism impacted the nutrition status and food security of Labrador Inuit. Process tracing is “an analytical tool for drawing descriptive and causal inferences from diagnostic pieces of evidence—often understood as a part of a temporal sequence of events or phenomena” (Collier, 2011, 824). Process tracing has a start and an end point (Crasnow, 2017). For this review, these specific points were adapted from the Royal Commission on Aboriginal Peoples’ four stages of colonization. These stages include Stage 1: Separate Worlds and first contact (up to 1500); Stage 2: Loss of land and settlement (1500 to 1769); Stage 3: Displacement and assimilation (1769 to 1969); and Stage 4: Negotiation and self-governance (1970 onwards) (Government of Canada, 1996). The stages and their names have been adapted to reflect changes in governance of the Labrador Inuit. The last stage ended when the Land Claims Agreement was signed, and the Nunatsiavut Government was formed in 2005. Each stage describes the impact of governance on nutrition status and food security of Labrador Inuit and interventions implemented to address these issues.

Stages of colonialism and Labrador Inuit

Stage 1: Separate worlds (up to 1500): First contact between Labrador Inuit and Europeans

Labrador Inuit are direct descendants of the Thule people who migrated from Alaska (Nunatsiavut Government 2021a; Pederson, 2016) and settled in the area now known as Labrador, around 1450 (Tanner, Kennedy, McCorquodale, and Inglis, 1994, 17). Labrador Inuit were a sovereign nation that “thrived on their own land” (Proctor, 2020, 17). Regular contact between Labrador Inuit and Europeans began in the early sixteenth century when Labrador Inuit travelled from northern Labrador south to the Strait of Belle Isle region to trade materials for hunting instruments (Higgins, Ryan, and Weihs, 1994; Prowse, 2002). However, after Britain first landed

in Newfoundland in 1497 (Prowse, 2002) they were determined to claim ownership of the lands on which Labrador Inuit lived. This would prove to be detrimental to Labrador Inuit.

Stage 2: Loss of land and settlement (1500 to 1768): Labrador Inuit and the Colony of Newfoundland

The rich fishing grounds of Newfoundland attracted the British. In 1583, Englishman Sir Humphrey Gilbert laid claim to Newfoundland, establishing the Colony of Newfoundland (Prowse, 2002). The Treaty of Paris and Royal Proclamation of 1763 placed Labrador under the authority of the Governor of Newfoundland (Tanner, Kennedy, McCorquodale, and Inglis, 1994). In 1765, Sir Hugh Palliser was given the task to “localize and contain Inuit as loyal subjects and trading partners in the north while the British ship fishery was being developed in the south of Labrador” (Rollman, 2011, 6). Palliser issued an Order for Establishing Communication and Trade with the Esquimaux Savages [sic] on the Coast of Labrador (Gosling, 1910) that forbade all attacks against Labrador Inuit. Sir Palliser engaged the Moravian Mission to negotiate an agreement with Labrador Inuit on behalf of the British (Gosling, 1910; Williamson, 1964; Hillier, 2001).

The Moravian Mission was a pre-reformation protestant sect formally known as the Unitas Fratrum. Due to their work with Greenland Inuit, the Moravian Mission spoke Inuktitut and had knowledge of Inuit culture. In 1771, Larsen Christian Drachard interviewed Labrador Inuit (Taylor, 1972). Through these interviews, in which a wide range of topics were discussed, he captured one of the earliest records of the Labrador Inuit diet. When asked specifically, “on what do they chiefly subsist?” Drachard translated the Labrador Inuit responses as “they eat part of the whale (chiefly the head). They also eat Seals, Cod, Herring, Salmon, etc. They Eat Deer, Foxes and all sorts of Birds they can kill. They boil their flesh or fish in large kettles of brass, iron, and some of stone” (Palliser, 1926 quoted in Taylor, 1972, 172). The negotiation between Palliser and the Moravian Mission would prove successful and for their efforts the British granted the Moravian Mission permission to settle in Labrador. This agreement established conditions to fulfill the Moravian Mission’s religious interests and British economic interests, but at an immediate cost to Labrador Inuit.

Stage 3: Displacement and assimilation (1769 to 1969): From the Moravian Mission to Canada

In 1769, the British officially gave the Moravian Mission permission and the land to establish themselves in Labrador. Labrador Inuit did not settle in the first mission settlements established in Nain, Okak, and Hopedale. However, due to food shortages in 1791 caused by European whalers decimating the right whale and bone whale populations (Proctor, 2020, 36) and Labrador Inuit converting to Christianity in 1805, more Labrador Inuit were forced to settle near the Moravian Mission. Eventually the Moravian Mission established eight mission stations spanning 100,000 acres that encompassed all of northern Labrador. They included: Nain (established 1771); Okak (established 1776, closed 1919); Hopedale (established 1782); Hebron (established 1830, closed 1959); Zoar (established 1865, closed 1889); Ramah (established 1871, closed 1907); Makkovik (established 1896); and Killinek (established 1904, closed 1923) (Kleivan, 1966). These settlements were the sites for religious, social, and economic activity (Proctor 2020; Williamson, 1964). Each settlement had a communal dwelling house and church in German architectural style, a trading store, a graveyard, workshops, and sizable vegetable and flower gardens. Figure 1 shows a map of the initial Moravian Mission settlements. Three of these initial Moravian Mission Settlements—Nain, Hopedale, and Makkovik—are communities within the Labrador Inuit Land Claims area.

Perspectives vary on the rationale for the large land mass granted to the Moravian Mission. The Moravian Mission's perspective stated the large land mass was required to "ensure continued sustenance through traditional Inuit hunting and fishing and prevent future encroachments by Europeans" (Rollman, 2011, 18). Proctor (2020) indicated that this large land mass established a trading monopoly with the Inuit. Due to a 1769 Order in Council, Labrador Inuit could trade with British and French traders in southern and central Labrador (Rollman, 2011, 7). Hanrahan (2003) stated that this extensive settlement area protected the Moravian Mission's interests to indoctrinate Inuit with Christianity and convert the Heathen [sic].

Arendt (2010) and Rollman (2011) suggested that the Moravian Mission tried to ensure the Inuit remained the same except for Christianity. However, the Moravian Mission was conflicted with their need to support the Labrador Inuit way of life and their own religious goals. This included Moravian values that sometimes conflicted with Labrador Inuit values (Hanrahan, 2003; Proctor, 2020; Williamson, 1964; Kleivan, 1966). For example, the Moravian Mission did not feel

that anything should be given for free, and they valued frugality and saving. This conflicted with Inuit values of sharing food, in which they gave food freely and cared for each other instead of saving (Proctor, 2020). In fact, food sharing was a major part of Inuit social strategies that protected relations among various families and protected people during food shortages (Arendt, 2010). The Moravian Mission “stipulated that permission to reside on the land grants, for Eskimos [sic] and whites alike, would only be given if the residents obeyed the mission rules of good behaviour” that included abandoning any traditional shamanism practices or new European ways such as alcohol consumption (Williamson, 1964, 33). The rules of the mission meant that “eventually Christianity came to mean Europeanization for Inuit” (Arendt, 2010, 86) as Christian Inuit eventually lived in single-family homes at the mission, adopted European-style clothes, regularly attended church, and changed their subsistence strategies to provide for the mission.

The Moravian Mission’s commercial arm, The Society for Furtherance of the Gospel Among the Heathen (SFG), controlled trade operations that produced profits to cover all expenses for the mission activity in Labrador, Moravian missions abroad, and annual shipping to Labrador. Accordingly, the Moravian Mission did not limit the hunting and trapping practices of Labrador Inuit to prevent total dependence of Labrador Inuit on the Moravian Mission and ensured economic capital for their Mission settlements. Some authors have reported the Mission strived to ensure fair trading practices by offering fair prices and supplying Labrador Inuit with nets, traps, and other equipment (Williamson, 1964; Fay, 2015). However, this ultimately supported the trade mission which encouraged Labrador Inuit to catch and fish more than they needed to support themselves. The trade mission was initially based on seal skins, fox furs, char, and salmon. Later, the Moravian Mission encouraged cod fishing, which was not indigenous to Labrador Inuit. A 1905 published record showed fisheries comprised 84% of total trade exports, of which cod and cod oil accounted for 45%; seal products were 28%, and char 11% (Browne 1909 cited in Williamson, 1964, 33). Perspectives vary on reasons for the increase in cod fishing by Labrador Inuit. Kleivan (1966) stated that cod provided more of a profit because of the good economic return. Proctor (2020) stated the Moravian settlements did not want Labrador Inuit to have contact with non-Moravians (when Labrador Inuit fished for cod, they remained near the Mission settlements). Irrespective of the rationale, changes in hunting and fishing patterns affected Labrador Inuit’s spiritual relationship to animals, food, and each other. Prior to contact with Moravians and entering the trade, Labrador Inuit practiced traditional means of subsistence that maintained a natural balance

and was part of careful management of their environment and ecosystem. Labrador Inuit also had social and spiritual relationships with their land and animals, and a belief that “their souls and livelihoods were strong and bound together” (Arendt, 2010, 84), especially caribou and seal. When animals were hunted, the food was shared, and feasts were held. New technologies, such as guns and nets, and the changed hunting and fishing strategies, altered the spiritual connection between Labrador Inuit and their environment as they hunted and fished for profit versus their own subsistence strategies and maintaining spiritual relationships (Arendt, 2010).

Changed hunting and fishing practices were not the only impacts on food for Labrador Inuit. As Labrador Inuit had increased access to European goods on the north coast, they became further entrenched in the Moravian economic system. Historical records show Labrador Inuit dependence on European goods reached a point where it increased Moravian demands for imports (Arendt, 2010). Labrador Inuit became dependent upon and indebted to the Moravian Missionaries. Hanrahan (2003, 227) stated this changed “Inuit economic—and ultimately social and cultural—life”. Also contributing to the change was the schools³ they established, even though they taught in Inuktitut. Finally, medical services were established to respond primarily to the high rates of infectious diseases and childhood mortality among Labrador Inuit. However, the Moravian Missionary physicians also focused on the newly emerging nutrition science and the impact of dietary intake on health.

Dr. Samuel King Hutton, a physician with the Moravian Mission in Okak, provided a comprehensive overview of his observations on the Labrador Inuit diet, and its link to overall health and prevalent diseases of the day. In his 1909 medical thesis, *A Thesis on the Health and Diseases of the Eskimos* [sic] Hutton stated food was one of the influences which mould the Eskimo [sic] (Hutton, 1909). He described the importance of seal meat and reindeer (caribou) meat in the Labrador diet. He also noted Labrador Inuit ate fish in the warmer times of the year, however it was not salted, and salt was “practically an unknown article of the diet” (Hutton, 1909, 10). He described the Labrador Inuit diet as “mainly flesh and fish to the exclusion of vegetable stuffs. The principal foods are in season at regular times. Seal’s flesh is fresh in the autumn and after the ice breaks and stored for the winter; reindeer (caribou) meat in the early spring and dried for the later spring; trout and codfish are in the summer” (Hutton, 1909, 10).

³ These schools would later be officially recognized as residential schools and are referenced later in this article.

Dr. Hutton attributed the risk of tuberculosis to the new European-influenced diet, suggesting that “as long as they keep to their native [sic] foods, they are less liable to be attacked than if they adopt a debilitating diet of bread and tea after the settlers” (Hutton, 1909, 22). He also linked diet to the incidence of childhood mortality, stating that the greatest mortality occurs “where the Eskimos [sic] are most altered in their habits from the primitive habits of life, especially food” (Hutton, 1909, 42).

In his thesis, Dr. Hutton stated the “Eskimo [sic] race is slowly dying out” (Hutton, 1909, 46) because of disease and child mortality. He provided four additional factors that would contribute to the future demise of the Labrador Inuit. Food was integral to two of these factors: Europeanization and Concentration. He cited “Europeanization, especially in the matter of foods, is a detrimental influence of great importance” (Hutton, 1909, 47). He observed that “the European food and clothing were being substituted for more healthy articles” (Hutton, 1909, 47) and this was not serving Labrador Inuit well. Concentration of settlements could lead “to greater competition in obtaining a native food supply, and the danger of epidemic disease is largely increased” (Hutton, 1909, 47). Dr. Hutton’s observations, and the actions of the Moravian Mission writ large, showed tension between medical advice and actions of the Moravian Mission. For example, other Moravian Mission reports praised Labrador Inuit for adopting European clothes and cleaning methods (Proctor, 2020). As stated previously, the Moravian Mission encouraged Labrador Inuit to settle and support the church at the cost of supporting themselves and their community.

Dr. Hutton observed that Labrador Inuit settled in northern Labrador did not have the same prevalence of dietary deficiency diseases, namely beriberi (thiamine deficiency commonly known as vitamin B1) and scurvy (vitamin C deficiency), that were more prevalent among Labrador Inuit who lived among the settlers in southern Labrador, and in the northern Newfoundland population. He fully attributed this difference to their diet: “the tribe in the far north who get very few berries or other vegetable food, but who have seals all year long are free from scurvy” but that “the Eskimos [sic] living among those settlers had adopted the settler diet, which resulted in scurvy and a less robust physique” (Hutton, 1909, 17). From 1904–1905, Dr. Hutton observed the appearance of kallak, a pustular skin disease. This was uncommon, which he attributed to a seasonal and unusual occurrence of a berry shortage because mice and lemmings ate the shoots and berries could

not grow (Hutton, 1909, 16). These observations showed the protective effects for some diseases of the Labrador Inuit diet.

In 1892 Sir Wilfred Grenfell, a British medical doctor with the Royal National Mission to the Deep Sea Fishermen, arrived from England to provide medical services in southern Labrador and northern Newfoundland. He expanded services to include those similar to the Moravian Mission (e.g., health, education, co-operative stores). Eventually, he formed the International Grenfell Association in 1914 (Higgins, 2008). Dr. Grenfell and his accompanying physicians had a keen interest in nutrition; they observed the first occurrences of nutrient deficiencies in northern Newfoundland. These physicians completed early observational studies on the causes of nutrient deficiencies and implemented interventions to remedy these deficiencies.

From 1912 to 1930, researchers considered Newfoundland “a laboratory for scientists and medical doctors because of its isolation, homogenous settler population, and reputation for poverty” (Kealy, 2006, 178). In 1912, Dr. Little, a physician who worked with Dr. Grenfell, published the first study in Newfoundland linking the prevalence of beriberi with consumption of white flour. He suspected two causes of beriberi—people’s preference for white bread over thiamine-rich whole wheat bread—and poverty, noting that “folks here live from hand to mouth” (Little, 1912, 123). To remedy the issue, Dr. Little emphasized the importance of education and encouraged the consumption of whole wheat flour (Little, 1912).

In 1917, Dr. Little published an observational study on the Labrador Inuit diet and nutrient deficiencies. He noted Labrador Inuit were meat eaters, meaning caribou, seal, fish, and birds. He also stated they consumed berries when in season and when they were frozen. For carbohydrates, “when civilised food is not available, they depend for carbohydrates upon those already transformed and in the stomach contents and blood when civilised food is not available” (Little, 1917, 642). He reiterated Hutton’s earliest observation of kallak and stated that Labrador Inuit’s susceptibility to scurvy was diet-related as it occurred when “they have been living almost exclusively on a fish diet and especially after a failure of the berry crops” and that the condition was “not peculiar to Eskimos [sic] but to their conditions of living (Little, 1917, 643).

The year 1926 marked a change for Labrador Inuit and their relationship with the Moravian Mission. Leading up to this time, cod prices decreased in value. The Moravian Mission could not support themselves and Labrador Inuit debts to the Moravian Mission increased (Kleivan, 1966). The Moravian Mission maintained their settlements; however, they leased their trading rights to

the Hudson's Bay Company for 21 years (Kleivan, 1966; Junker, 2019). This change had serious consequences for Labrador Inuit, as noted when E.P. Wheeler stated: "The Hudson's Bay Company simply meant disaster to the Eskimo [sic]" (quoted in Kleivan, 1966, 134). Labrador Inuit now trapped for the Hudson's Bay Company. The primary interest was profit and changes were made to ensure this occurred. The changes included not supplying Labrador Inuit with equipment (e.g., fishing nets); they maintained tight credit control; they bought fish and furs from Labrador Inuit at low prices (Taylor, 2012); and placed much more emphasis on furs (Kleivan, 1966). They also charged a full price on all goods, instead of discounting everything but luxury goods (Junker, 2019). Due to these changes, poverty among Labrador Inuit increased and there was an increased reliance on relief payments. However, there were issues with relief payments as well.

The Hudson's Bay Company administered relief payments to Labrador Inuit (Taylor, 2012; Kleivan, 1966; Junker, 2019) to replace the "poor's fund" established by the Moravian Mission to distribute to the needy. The Hudson's Bay Company was reimbursed by the Newfoundland Government for these expenses (Tanner, Kennedy, McCorquodale, and Inglis, 1994) but it did not distribute these payments fairly, rewarding only Inuit they considered good investments, i.e., those that brought in the most trade goods (Kleivan, 1966; Junker, 2019). Labrador Inuit could not purchase goods they needed to survive in their current agreements with the Hudson's Bay Company. They relied on sharing practices and "several times some of the families have been without food of any kind in the house and had to rely on the generosity of others for their meals" (Periodical Accounts, 1939, quoted in Kleivan, 1966, 66).

The diet changes and increased poverty impacted the physical health of Labrador Inuit. In 1928, Dr. Waugh, a dentist with the Grenfell Mission, observed that dental health was worsening with each generation, as each Inuk under the age of 12 had periodontal disease. Dr. Waugh also noticed a difference in dental health based on location, specifically, Labrador Inuit further north within the settlements had better dental health than settlements further south within the northern Labrador settlements. He attributed these observations to diet changes as the current diet was mostly carbohydrates and protein, with decreased fat content (Waugh, 1928). Dr. Aykroyd (1930) completed a study on beriberi in Newfoundland two years later: using food supplies for four families in Labrador who did not have beriberi, he compared the diets between Newfoundland and the coast of Labrador. He surmised that "although beriberi is comparatively rare on the Labrador

coasts, the very high infant mortality, the unhealthy, apathetic appearance of children and adults, and the prevalence of severe dental caries, suggests both qualitative and quantitative defects in the local dietary” (Aykroyd, 1930, 365).

From 1933 to 1949, Newfoundland underwent a period of political change that affected Labrador Inuit. Newfoundland was economically destitute in the early 1930s because of the great depression that decreased cod prices, increased debt from building a Newfoundland railway, and supporting World War I. Britain accepted financial responsibility for the Dominion of Newfoundland and passed the Newfoundland Act in 1933; Newfoundland gave up their independent government and was governed by a London-appointed commission (Newfoundland Royal Commission Report, 1933). Britain charged the Newfoundland Royal Commission with making recommendations for the future of Newfoundland, which included Labrador. These recommendations are commonly known as the Amulree Report.

One of the Amulree Report recommendations was to strengthen the public health and welfare system. The Newfoundland Government provided public relief payments to those in need, often referred to as a relief recipient. The Newfoundland Government did not give money to the relief recipients due to low funds and they were “afraid that people would become too comfortable and stop trying to find work elsewhere” (Higgins, 2007, 7). Instead, relief recipients received food rations that included a maximum of \$1.80 per month for each person, which is estimated to be \$34.58 in 2020 Canadian currency. The amount of food was approximately 50% of required energy requirements to keep a person alive (Higgins, 2007). The rations included tea, flour, pork, and molasses. In 1934, the Commission of Government introduced brown bread into relief diets. The Newfoundland population did not accept this intervention as they interpreted brown bread as a symbol of poverty and failure. Moreover, the brown bread was not palatable as poor storage methods created a rancid taste and occasionally the brown bread had insects (Strikwerda, 2018; Overton, 1988).

In 1934, the Hudson’s Bay Company stopped providing relief to Labrador Inuit. Instead, the Newfoundland Government brought in the Newfoundland Rangers, the police force of Newfoundland, to fulfill this task as part of their responsibilities for public health and welfare departments (Kleivan, 1966; Taylor, 2012, Tanner, Kennedy, McCorquodale, and Inglis, 1994). In 1942, the Newfoundland Government Department of Natural Resources created a Northern Labrador Trading Operation and took control of the stores. The Newfoundland Government

focused on a diversified economy and the store included both retail and trading operations. Due to the changes in ownership of trade operations, now Labrador Inuit took part in more of a cash versus trade economy (Kleivan, 1966; Tanner, Kennedy, McCorquodale, and Inglis, 1994) and they sought other sources of employment. Both the American and Canadian Governments developed infrastructure to support World War II along the coast of Labrador and in Goose Bay. Labrador Inuit moved within coastal Labrador to support the sub-arctic radar sites along the Pine Tree Line and to the international air force base in Goose Bay (Tanner, Kennedy, McCorquodale, and Inglis, 1994). Shortly after, the International Grenfell Mission assumed responsibility for all health services from the Moravian Mission. By the mid-1940s, the Moravian Mission only provided religious and education services in northern Labrador.

Meanwhile, Newfoundland was still considering its future and nutrition remained at the forefront of these discussions. A 1945 study documented widespread malnutrition among the Newfoundland population (Adamson et al., 1945); the study findings showed low body weights and nutritional deficiencies such as lower levels of vitamin A, riboflavin, ascorbic acid, and thiamine. The authors stated that “the Government of Newfoundland has been acutely conscious of the high incidence of disease and of faults in the diet of the country. It has been handicapped, however, in attempts to remedy the situation by a large proportion of the able-bodied population being entirely engaged in fishing, the poor fertility of the land, the poverty of many of the people, the remoteness of a large part of the population, and lack of adequate means of transportation” (Adamson et al., 1945, 4). In 1947, Dr. Cuthbertson synthesized previous studies completed in Newfoundland and prepared *A Report on Nutrition in Newfoundland*. This in-depth report summarized malnutrition incidence, background conditions affecting health and nutrition, food consumption levels, and provided recommendations for improving Newfoundland consumption levels and their conditions. The report did not include any information on Labrador, and specifically Labrador Inuit. Rather, located at the end of the document is an overview of Labrador Inuit’s dietary intake and issues impacted by diet. Rev. F.W. Peacock, who was with the Moravian Mission, provided an overview of Labrador Inuit diets by season during conversations with Dr. Cuthbertson (Cuthbertson, 1947). While this information lacked scientific rigour, it highlighted differences among the Newfoundland population and Labrador Inuit living near or in the Moravian Mission settlements.

Rev. F.W. Peacock stated: “In winter seals, caribou, arctic hare, black and polar bear, porpoise, fish and ptarmigan were consumed. In the spring, the willow buds, small shore-growing sedum is introduced and seaweed. In summer, a large number of birds and fish and berries such as blueberries, partridge berries, and bakeapples were consumed. Flour and vegetables were consumed by those who lived near the settlements. The vegetables grown by the mission settlement included potatoes, spinach, turnips, lettuce, kohlrabi, radish, carrots, rhubarb, kale, and onions” (Cuthbertson, 1947, 75). He also noted white flour was much more common. Labrador Inuit did not have brown bread until the Newfoundland Government provided relief. He stated: “The Eskimo [sic] does not like brown flour even though there is not a tendency to regard it as a form of dole as is alleged to be the situation in Newfoundland when anyone attempts to introduce higher extraction flour. The Eskimo [sic] apparently became used to white flour before brown flour appeared on the scene. The latter is apparently regarded as dog’s food” (Cuthbertson, 1947, 75–76). The recommendation for Labrador Inuit was the following: “It would appear as long as the Eskimo [sic] can have free access to his normal foodstuffs, there is little likelihood of dietary deficiency diseases arising. It is when he is cut off from his usual supplies and has to live on a poor man’s dietary that deficiency states arise. It is obvious that with increasing contacts with civilization, steps will require to be taken to ensure that the diet of the natives is adequate in all essential constituents. In this part of the world there is also a great need for better houses” (Cuthbertson, 1947, 77).

In addition to synthesizing the current evidence of the day, Cuthbertson’s report provided recommendations to improve the nutrition status of the Newfoundland population. These recommendations included breastfeeding, vitamin A and D enrichment of margarine, increased cod liver consumption especially for children, women, and pregnant women, restocking of moose and caribou populations, increased egg production, and increased consumption of vitamin C and calcium, specifically from milk, growing sufficient quantities of potatoes, cabbages, etc., and ceasing the export of local vitamin C fruits such as bakeapples. Finally, the report recommended examining the relationship between cost of food and nutritional value. Specifically, it stated: “On the present scale it is almost certain that deficiency disease will result eventually if no other food is available, and it may be to supplement the basic scale of relief with an additional \$7.50, the usual sickness rate” (Cuthbertson, 1947, 35). The report results prompted the Newfoundland Government to implement nutritional interventions in Newfoundland. These interventions

included fortifying foods, specifically margarine, with vitamin A and D, and white flour with B vitamins; distributing higher nutrient foods and supplements, such as milk and cod liver oil, to high-risk groups in schools; and providing free orange juice to babies and nursing mothers (Kealy, 2006; Ommer, 2007). As the Government of Newfoundland supplied food to Labrador, we assume that food fortification was available to Labrador Inuit.

Newfoundland joins Canada

In 1949, Newfoundland and Labrador joined Canada. The 1948 Terms of Union of Newfoundland with Canada did not contain any reference to Indigenous Peoples (Tanner, Kennedy, McCorquodale, and Inglis, 1994). The Government of Newfoundland retained control of Indigenous Peoples (Tanner, 1998) and they stated that under provincial control Indigenous Peoples would have certain rights such as voting and would be treated like ordinary citizens of the province, including given access to social policies provided as a part of joining Canada (Tanner, 1998). A report by Tanner, Kennedy, McCorquodale, and Inglis (1994) offered another explanation as it suggested retaining control ensured the Newfoundland Government, and not Indigenous Peoples, received additional funds from the federal government to provide services to Indigenous Peoples. As a result of this decision, the federal government transferred fewer funds than for other Indigenous Peoples in Canada as they were not directly responsible for the health and well-being of Indigenous Peoples in Newfoundland. It also impacted the scope of services delivered as Indigenous Peoples had few specific laws, programs, and policies directed at them because they did not have separate legal categories in the Province of Newfoundland (Grammond, 2014). Instead, at the beginning, the provincial and federal governments divided responsibility for services for Indigenous Peoples through various agreements.

In 1954, the Government of Canada and the Government of Newfoundland put the first Federal-Provincial Native People's funding agreement into place (Tanner, Kennedy, McCorquodale, and Inglis, 1994; Newfoundland and Labrador Heritage, 2009). These agreements were later updated in 1965, 1970, and 1976, and changed scope in 1981.

After the 1954 agreement was signed, health service remained constant as the International Grenfell Association continued to provide health services. However, Labrador Inuit now received payments for welfare and family allowance benefits similar to the rest of Canada. However, schools in northern Labrador felt the immediate impact as the provincial and federal governments

instituted a new joint education policy for Labrador Inuit (Molema, 2017). This school curriculum changed as the intent of the federal government schools was to standardize Labrador school curricula to Canadian standards (Rowe, 1964).

The Moravian Mission established two boarding schools in northern Labrador, one in Makkovik (1914 to 1955) and the other in Nain (1929 to 1972). The International Grenfell Association established three schools and one orphanage: the Lockwood school in Cartwright (1920 to 1964), Labrador, Yale school in Northwest River, Labrador (1926 to 1980), and the St. Anthony Orphanage and boarding school (1906 to 1969). After the 1954 agreement, the five schools received partial funding from the federal government and were overseen by the provincial government (Government of Canada, 2019; Procter, 2020). The Moravian Church and the International Grenfell Association maintained control of the dormitories within the residential schools (Procter 2020). School attendance was mandatory, and the Government of Newfoundland withheld family allowances from parents when children were not enrolled for an entire year. Parents did not have the choice for children to attend school at home, especially if they wanted their children to attend high school. The Yale school in Northwest River was important for advancing education, as many children attended high school where no high school was available in coastal communities. It closed in 1980 (Government of Canada, 2019; Procter, 2020).

On September 28, 2016, the Government of Canada officially recognized attendees of these schools as residential school survivors (Government of Canada, 2019). Residential school survivors had negative experiences and experienced abuse, racism, and were punished for speaking their own language (Molema, 2017; Procter, 2020). Also, “One middle-aged woman noted, there was favouritism for some people, and there was really strict, even abusive, behaviours to some kids.” “One Inuk elder philosophized that for the school administrators, “it [was] easier to work with ... those who look more white than brown” and that fairer-skinned students were able to “learn a trade or be given the support to higher your education or to work through the system much more smoothly than others who are looked at as different.” (Molema, 2017, 144).

Food was an integral part of the residential school experience: food costs were a substantial part of the school budgets, meal amounts were documented, and leftovers were used as a basis for the next meal to save costs. Many students did not like the food because they were not used to it and they had to eat on a schedule (Procter, 2020; Truth and Reconciliation Commission of Canada, 2015). Moreover, staff used food as punishment by either withholding food or force-feeding.

Attendees reported both hunger when food was withheld or force-feeding to the point where “food was shoved down their throat until they threw up” (Truth and Reconciliation Commission of Canada, 2015, 185). In addition to the negative experiences with food, Labrador Inuit were not physically close to their families resulting in a loss of their traditional food preparation skills that were usually passed on by family members. One attendee stated that residential schools interfered with a traditional education provided by her mom, in which the participant was taught “how to be an Inuk woman, and how to clean seal skins, and that kind of thing” (Truth and Reconciliation Commission of Canada, 2015, 182). The intent of the Government of Canada’s residential school policy, which was to assimilate Indigenous children, represents part of a broader colonial history that “disrupted intergenerationally transmitted knowledge of the land and resource harvesting, alienating Inuit from the lifeways that had previously granted a measure of self-sufficiency, and fostering relations of dependency” (Molema, 2017, 142–143).

After Newfoundland joined Canada, the economic conditions of the province and health status of the Newfoundland population improved. Nutrition education and school health programs remained; however, most government supplementation programs were discontinued. Exceptions included enriched flour and margarine, and adding vitamin C to evaporated milk, in response to the discovery of infantile scurvy (Kealy, 2006). This improvement in the Newfoundland population was a stark contrast to the experiences of Labrador Inuit who had continued to experience residential schools, forced relocation within Labrador and remained caught between federal and provincial jurisdictions.

Stage 4: Negotiation and self-governance (1970 onwards): The journey toward self-determination

In 1971, the Bureau of Nutritional Sciences, with the Government of Canada (Bureau of Nutritional Sciences, 1975) completed a National Nutrition Survey. The Newfoundland results showed slightly lower intakes in certain nutrients but overnutrition for others and excess consumption by the Newfoundland population. The survey included one metropolitan site, five urban sites and four rural sites; the survey did not include any Labrador communities and no Labrador Inuit. The survey results showed a marked change from the nutrient deficiencies noted in the Newfoundland population previously, which was attributed to a combination of the interventions and improved economic situation for the Province of Newfoundland.

Politically, for Labrador Inuit, the early to mid-1970s was a time of organizing and advocacy. In 1973, Indigenous Peoples in Newfoundland and Labrador formed two organizations: the Native Association of Newfoundland and Labrador and the Labrador Inuit Association (Tanner, 1998; Heritage Newfoundland and Labrador, 2008). In addition, the provincial government studied Labrador issues. In 1974, the Newfoundland Government Royal Commission on Labrador published a multi-volume report on services to Labrador. This report spanned six volumes and had 288 recommendations on a wide variety of topics ranging from health to economic development. The Commission report noted the cost of living and specifically food was higher for Labrador compared to St. John's, Newfoundland. Based on Labrador residents' concerns about the cost of living, The Commission contracted a separate independent study on the cost of living in Labrador. The Consumer Price Index was used to measure the cost of living, and the contractor adapted the Statistics Canada consumer basket to create a "Labrador Basket", which had materials more relevant to living in Labrador. Adaptations included cost for items such as heavier clothes and excluded items such as restaurant meals.

The study used the largest city in Newfoundland, St. John's, as a comparison base for eight communities in Labrador, only one of which, Makkovik, was on the northern Labrador coast. Results showed the average cost of living in Labrador was approximately 10–11% higher compared to St. John's. Food costs in Labrador were 4–8% higher than in St. John's but varied by community. In Happy Valley-Goose Bay (central Labrador), food costs were 16% higher and in Makkovik (northern Labrador) they were 7% higher than St. John's. They attributed the lower food group index for Makkovik to the Labrador Services Division store in the community that was the responsibility of the provincial government (Snowden, Goodyear, Hettasch, and Snell, 1974a). The report also reviewed social assistance rates and stated they were not adequate to meet the cost of living in Labrador; the authors recommended that "the Province provide people a higher rate of social assistance to recipients, in recognition of the higher expenditures on food and clothing only, and that this increase should be 10%, which is approximately the average additional expenditure between St. John's and Labrador" (Snowden, Goodyear, Hettasch, and Snell, 1974b, 1,350). The authors also suggested supporting a seal hunting program with specific equipment and exploring agriculture for Labrador. Finally, the report provided recommendations to improve the current federal and provincial government agreements (Snowden, Goodyear, Hettasch, and Snell, 1974b).

In 1977, the Labrador Inuit Association and Labrador Innu Association commissioned their own report titled *Report to the Naskapi-Montagnais Innu Association and the Labrador Inuit Association regarding the Health Care Delivery System in Labrador*. The authors identified several health issues and requested immediate attention to medical problems including nutrition and dental health, drug abuse, and respiratory and middle ear disease known to exist on the Labrador coast. They also stated the health care system was inadequate and suggested extending the Federal Government's community health representative program to Labrador, establishing nursing stations in two communities, Postville and Rigolet (Labrador Inuit Association, 1977). Two of these recommendations were implemented as two nursing stations and the community health representative program was established. It is difficult to ascertain if specific services were increased as there was no follow-up report on the recommendations.

Dr. Alton-Mackey and colleagues from Memorial University of Newfoundland completed the next nutrition studies inclusive of Labrador Inuit in 1980–1981. These studies were completed in six coastal Labrador communities and included three Inuit communities, Rigolet, Nain, and Makkovik. These individual community results were combined to form *The Country Food Use in Selected Labrador Coastal Communities: A Comparative Report*. These studies were prompted by unpublished reports that showed an increase in childhood obesity, dental caries, and decline in breastfeeding. Additionally, health professionals observed diet changes such as increased nutrient-poor snack foods and carbonated drinks. Moreover, there was no food costing data for northern Labrador and the Department of Health only included two southern Labrador communities in their provincial costing of a basic diet. While the food costs for Labrador were estimated to be 15% higher than Newfoundland, this was not verified as there was no data (Alton-Mackey, 1984).

The study's objectives were to describe the food supply of country and imported food available to coastal communities and nutrients available to the residents of Nain, Makkovik, and Rigolet by season. Alton-Mackey's results quantified the intake of country foods by species. Overall, country foods remained an important part of the Labrador Inuit diet, namely the consumption of cod (except for Rigolet) and caribou. The study results showed the high cost of food and low levels of total income as wages (32%) for the communities studied; these factors affected participant's ability to consume a healthy diet (Alton-Mackey, 1984).

In response to the study results, a research team from Memorial University in Newfoundland delivered a nutrition education project, titled *The Birthing of Nutrition Education*

in Labrador (Alton-Mackey and Boles, n.d.). This project sought to reinforce the importance of Labrador Inuit traditional diets and complement these foods with store-bought foods to residents of northern Labrador. The project focused on food and nutrition education, and trained community field workers working in Innu and Inuit communities. The training included in-person sessions focused on food preparation methods and education materials on healthy eating choices such as canning guides and video tapes in Inuktitut (Alton-Mackey and Boles, 1982).

In 1981, the International Grenfell Association handed over all its nursing stations, hospitals, equipment, and other medical resources to the provincial government, specifically the Grenfell Regional Health Board, for a fee of one dollar (Higgins, 2008). Shortly after, the Government of Canada and the Government of Newfoundland entered into *The Canada/Newfoundland/Native People of Labrador Health Agreement 1984–85*, which provided funding for programs intended to improve the physical, mental, and social well-being of Labrador Inuit and Innu (Locke and Townley, 1995). In 1985, the Labrador Inuit Association (LIA) developed a separate health agency, the Labrador Inuit Health Commission (LIHC), which had public health nurses and delivered programs such as maternal and child health, infectious disease control, school health assessment, environment health surveillance, and home care; these services were in addition to community health aides (Tanner, Kennedy, McCorquodale, and Inglis, 1994). The provincial government remained responsible for delivering primary and acute care services.

Further research was completed in 1994 by Zammit, Torres, Johnson, and Hans (1994) on the dental health of Labrador Inuit. This study showed that only 3% of the population were caries-free. They attributed this low rate to the acculturation and dietary habits that included eating foods and drinks high in refined cariogenic carbohydrates. The researchers suggested that Labrador Inuit needed to improve dietary intake and have preventative dental care services (Zammit, Torres, Johnson, and Hans, 1994). These results were consistent with the study completed by Dr. Waugh (Waugh, 1928) 66 years earlier regarding dietary intake.

In 1989 the Government of Canada and the Government of Newfoundland and Labrador established a contribution agreement for the benefit of Inuit communities that spanned from 1989 until 1994. This agreement provided funding for adult and teacher programs, curriculum development, operating government stores, and water and sewer projects. The contribution agreement was overseen by a separate agency of the provincial government (Tanner, Kennedy,

McCorquodale, and Inglis, 1994). This agreement impacted food security due to the stores' operations. The provincial government continued to fund the stores' operation, albeit with no financial return. A 1995 report showed the provincial government had a \$876,748 deficit while operating stores in Labrador Inuit communities from 1989–90 (Locke and Townley, 1995). Later, the Newfoundland Government sold these stores to independent retailers.

It was during the late 1990s that policies and programs specific to improving nutrition and improving food security were enacted by the provincial and federal governments in Canada. In 1997, the Newfoundland Government started the Air Foodlift Subsidy program to ensure that coastal Labrador received nutrition and perishable food items during the winter months. This program started after the marine shipping season stopped in the fall (Government of Newfoundland and Labrador, 2006). The provincial health board for the Labrador region, the Health Labrador Corporation, provided community-based nutrition services to the northern Labrador Coast for three years, from 1997 to 1999. After 2000, they provided community dietitian services on an as-requested basis (as mentioned in a conversation on June 12, 2020).

Concurrently, the federal government provided funding to Labrador Inuit for policies and programs that focused on nutrition and food security. There were four programs: 1) The Food Mail program covered part of the transportation costs incurred for shipping nutritious, perishable food, and other essential items to isolated northern communities that are not accessible year-round by road, rail or marine service (Indian and Northern Affairs, 2009); 2) The Canada Prenatal Nutrition program focused on services for the prenatal period and first year after birth (Government of Canada, 2020); 3) The Aboriginal Diabetes Initiative focused on community-based activities to prevent and manage diabetes (Government of Canada, 2013); and 4) The Aboriginal Head Start program provided funding for a head start program in Hopedale (Government of Canada, 2017). These programs remained in effect until 2005 when Labrador Inuit officially signed the Land Claims Agreement and formed the Nunatsiavut Government (Nunatsiavut, n.d.). This agreement meant that Labrador Inuit were given back control of some health services, their lands, and associated economic development activities. Perhaps, not coincidentally, 2005 was also the last year of a Moravian Mission presence in Labrador as the last Moravian Missionary left Hopedale (Canadian Broadcasting Corporation, 2005).

Discussion

Labrador Inuit have experienced change since first contact with Europeans. While social change may be inevitable, as Drucker (1958, 153) stated: “What matters, of course, is with whom the contact is, under what circumstances, and with what result”. Hanrahan (2008) used a social lens to discuss these changes in nutrition for Labrador Inuit. This review employed a critical dietetics lens that illustrated change was forced upon Labrador Inuit through their interactions with various government actors, religious missionaries, and private industries. Each of these groups pursued their own political, economic or religious interests, while striving to control and assimilate Labrador Inuit. These tenets of colonization (MacDonald and Steenback, 2015) were enacted in various forms and impacted the physical and social health and well-being of Labrador Inuit.

Settler colonialism started in the second stage of colonization (1500 to 1768) and was fully implemented in the third stage of colonization (1769 to 1969). Settler colonialism is not an event but a structure as “land is made into property and human relationships to land are restricted to the owner and their property” (Wolfe 1999 in Tuck and Yang, 2012, 5). This occurred when the Moravian Mission created their settlements and the Newfoundland Government and International Grenfell Mission decided where and how Labrador Inuit lived. As the Moravian Mission and the Hudson’s Bay Company forced Labrador Inuit to settle and support the Moravian Mission, they were forced to change their hunting and gathering practices to trade with the Moravian Mission and the Hudson’s Bay Company. When Labrador Inuit were settled and started trading, they became indebted to both the Moravian Mission and Hudson’s Bay Company. Both these actions are now known as settler-colonialism’s economic monopoly and control. These changes continued when Labrador Inuit moved to seek employment and fully transitioned to a cash-based economy. This time period (1769 to 1969) signified the beginning of nutrition and food security as population health issues for Labrador Inuit due to forced changes in settlement and participation in a trade and eventually cash economy. The origins of population health are rooted in the debate between economic growth and the impact on human health for those supporting economic development (Szerter, 2003). As Labrador Inuit traded with and supported the economic pursuits of the Moravian Mission and the Hudson’s Bay Company, store foods became a larger part of their diet and their spiritual relationship to the land and their food was forever altered. Historically, the relationship to the land and their food is an expression of Labrador Inuit culture; for Labrador

Inuit, these changes did not immediately produce physical changes, but created social change and social distress (Kaplan and Woollett, 2000).

During the third (1769 to 1969) and fourth (1970 to 2005) stages of colonization, due to changes enacted by the Hudson's Bay Company and the Province of Newfoundland, and changes in the economy, Labrador Inuit became more dependent on government relief. Burnett, Hay, and Chambers (2016) in their review of historical Arctic policies also note the same observations for Inuit in the Arctic due to colonization. This forced reliance is another specific form of colonialism, specifically welfare colonialism as Paine (1977, 3) stated that these policies and interventions "created conditions for poverty, reduced self-reliance, created more reliance on market foods than traditional knowledge". Furthermore, education policies in place by the Newfoundland Government required children to attend school outside of their communities. This forced attendance contributed to a loss of traditional food preparation skills and further dependence on market foods.

The Moravian Mission and Government of Newfoundland excluded Labrador Inuit from both early political processes and health research. Only two early nutrition studies focused on Labrador Inuit; one thesis completed by a Moravian physician (Hutton, 1909) and one study focused on Labrador Inuit living on the Moravian mission settlements (Little, 1917). Others provided insight into Labrador Inuit diets as in the case when the Moravian Mission representatives spoke on behalf of Labrador Inuit and provided reports of Labrador Inuit diets rather than directly engaging with Labrador Inuit. The results of this review suggest several reasons for the lack of research on Labrador Inuit: initially Labrador Inuit were not experiencing any of the early deficiencies observed in Newfoundland, a lack of research capacity of the Moravian Mission as there was only one physician, research interests for Labrador Inuit were not prioritized by the International Grenfell Mission, and later a lack of clarity around roles and responsibilities between federal and provincial governments. Labrador Inuit were also excluded from early political processes including negotiations between the British and the Moravian Mission in the 1700s, jurisdictional discussions when Newfoundland joined Canada in the 1940s, and resettlement of their communities in the late 1960s. Additionally, Labrador Inuit were excluded from discussions on health and education services provided to them until the 1970s.

Villegas (2012) refers to Indigenous exclusion from political processes and health services as an asterisk. This asterisk is a body count that does not account for Indigenous politics,

educational concerns, and epistemologies. The exclusion implies that data to support and develop nutrition interventions for Labrador Inuit were not specific to Labrador Inuit. Rather, interventions were developed based on outside opinion, observations, or aggregate data inclusive of Labrador Inuit. Moreover, these interventions were developed for Labrador Inuit and not with Labrador Inuit. Of note is that for Labrador Inuit did not experience the same early nutrient deficiencies as the Newfoundland population (Little, 1917; Aykroyd, 1930; Cuthbertson, 1947). As settlement, economic, and education changes occurred, and Labrador Inuit were forced to settle by the Moravian mission and resettle by the Government of Newfoundland and Labrador. Through these changes Labrador Inuit were disconnected from their land and families, Labrador Inuit's health status decreased while the health of the Newfoundland population increased.

Initially, Labrador Inuit did not experience any of the nutritional deficiencies (e.g., beriberi) prevalent in the Newfoundland population. Researchers attributed any early nutrient deficiencies among Labrador Inuit to a targeted and temporary issue with food supply. Health professionals and researchers, from the Moravian Mission to researchers in the 1980s, noted benefits of country foods (e.g., caribou, seal) on the health of Labrador Inuit. Yet, Labrador Inuit adopted a newer, less healthy diet from the early 1900s onwards, despite repeated suggestions from the medical community and researchers that Labrador Inuit would fare best if they continued eating their own foods. This was due to the European attitudes of superiority, as evidenced by Dr. Little's comments on civilised foods (Little, 1917) and settlement as noted by Hutton (1909).

The early proposed solutions to addressing the health issues more prevalent among Labrador Inuit included fortification of foods, introducing foods that were not acceptable such as brown bread, nutrition education, and a reliance on the food sharing practices of Labrador Inuit. These practices did not address the root cause of poverty and required self-help interventions such as individual level adaptation and informal sharing practices. At times, the interventions adopted showed the importance of the political and economic climate. For example, introducing brown bread or moving communities were adopted as they reflected the attitude and acceptance of the government of the day. But changes to relief diets and income support that were noted in the very first studies on nutrient deficiencies in Newfoundland in the early 1900s, through to the Amulree Report in 1934 and the Labrador-specific recommendations in the 1974 Royal Commission Report on Labrador, were never adopted (Adamson et al., 1945; Government of Newfoundland and Labrador, 1977). Instead, recipients had to survive on what was provided, even if it was not

enough. Moreover, the early conditions in residential schools exposed Labrador Inuit to racism, abuse, and at times, periods of hunger. Therefore, Labrador Inuit were subjected to interventions by the Government of Canada and Government of Newfoundland and Labrador that caused them harm and at the same time delivered on the intent of the policy.

This exclusion and lack of services prompted Labrador Inuit to advocate for recognition as a distinct Indigenous group. Throughout history, Labrador Inuit displayed both resilience and adaptation to change. They defended themselves from initial attacks by Europeans in the 1500s, protested unfair treatment by the Hudson's Bay Company in the 1930s, and formed their own association and started negotiations for their own land claims in the 1970s. After they formed the Labrador Inuit Association, Labrador Inuit took part in negotiations affecting Labrador Inuit and began the path to self-governance. Starting in the 1980s, the Labrador Inuit Health Commission delivered its own health services. And, after 30 years of negotiations, the same group that the Moravian Mission did not expect to survive in the 1900s became the first Inuit self-government in Canada. Through the land claims agreement, Labrador Inuit Land Claims Agreement Inuit rights to hunt, fish, harvest and trap are legally recognized under the land claims agreement in section 35 of the Canadian Constitution (Nunatsiavut, 2020). This recognition was an integral step by Labrador Inuit towards their own food sovereignty. While the relationship between Labrador Inuit and their lands, and each other, may have changed over time, it has nonetheless persisted. The resilience and determination of Labrador Inuit was integral to adapting to change in the past and remains a strength in meeting current and future challenges to address nutrition issues and food security.

Limitations

An inherent challenge with historical research is validating the credibility of the data as research methods and rigour change over time. To overcome this limitation, studies were cited at specific time periods to provide context. Also, at times, references cited different accounts of the same event, including dates. When this occurred several sources of information were searched on the same topic and the dates and facts used were those most consistently presented. Finally, the early articles included were written from the perspectives of early Europeans as they included governments or missionaries. To overcome any perspective bias, this review included both the original articles and recent articles to provide various perspectives on the same topic and improve

the reliability of the information (Crasnow, 2017). When there were gaps in knowledge or questions regarding reliability, discussions were completed to validate information with individuals from Labrador who had knowledge of the events and area. Finally, members of the Nunatsiavut Government Advisory Group for this research reviewed and provided feedback on drafts of this study.

Conclusion

This critical historical review summarizes how the various forms of colonialism generated changes in nutrition and food security for Labrador Inuit. Colonialism has influenced who Labrador Inuit are today. Labrador Inuit navigated their history with resilience and determination; this navigation continues. The Moravian churches remain on the Labrador coast and faith is important for many Labrador Inuit. The policies developed and implemented by the Province of Newfoundland and Labrador, and the Federal Government of Canada, continue to impact the Nunatsiavut Government. While Labrador Inuit have come full circle from self-sufficiency to self-determination, they bring with them their history and the current unique context. This is the current landscape that the Nunatsiavut Government will work with to address remnants of the past, strive to meet the needs of Labrador Inuit in the present, and lead the way to a healthier future.

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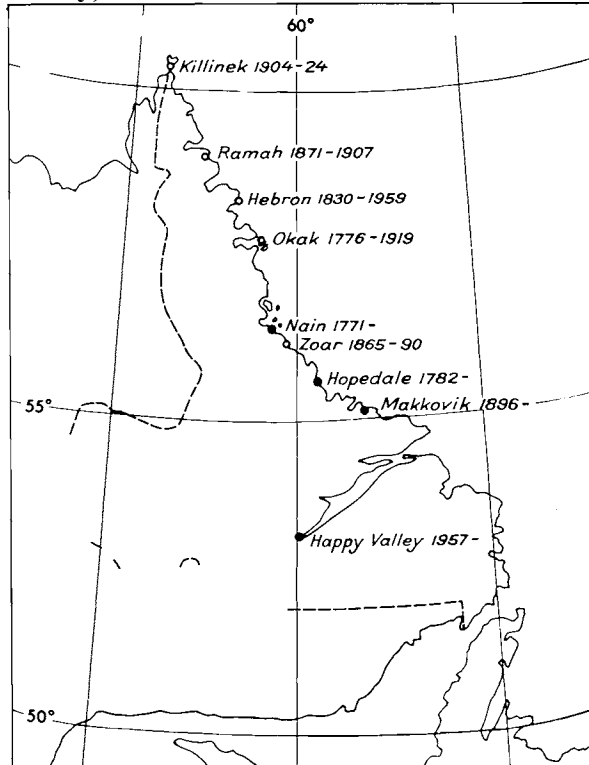
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Figure 1: Early Moravian Mission settlements in Northern Labrador (excluding Happy Valley)



Kleiven, 1966, 24

4.2 — Article 2: Piecing together the Labrador Inuit food security policy puzzle in Nunatsiavut, Labrador: A scoping review

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Piecing together the Labrador Inuit food security policy puzzle in Nunatsiavut, Labrador (Canada): a scoping review

Abstract

Inuit in Canada experience greater social and economic inequities than the general Canadian population. Food security exemplifies this inequity and is a distinct determinant of Inuit health. This scoping review focuses on food security-related policies implemented in Nunatsiavut, located in Northern Labrador. The primary objective was to identify the range of existing policies that pertain to food security in Nunatsiavut. The secondary objective was to complete a directed content analysis to map each policy against the applicable dimension of food security. This scoping review followed the Johanna Briggs methodology. The search strategy included the databases: Medline (via Ovid), EMBASE (via Ovid), CINAHL, and Scopus, and a hand search of the relevant journals, conference abstracts and grey literature. This search was undertaken from April 2019 – October 2019. A content analysis mapped each policy against the applicable dimension of food security.

Results: The results showed that twenty-five policies were identified, spanning three levels of government, that explicitly or implicitly addressed at least one dimension of food security. Accessibility was the most frequent food security dimension identified. The Government of Canada developed 60% of policies and the Nunatsiavut Government implemented 48% of policies. Most policies focused on proximal factors for food security. Identifying distal policies for food security and understanding the impact of existing policies in Nunatsiavut remain as areas of further investigation.

Ethics and Dissemination: This project was reviewed by the Nunatsiavut Government Research Advisory Committee.

Introduction

Inuit are an Indigenous people living in the circumpolar region [1]. This region spans four countries: the USA (Alaska), Greenland, Russia (Chukotka), and Canada [2]. Within Canada, Inuit primarily live in the four land claim areas: Nunavut, Inuvialuit in the Northwest Territories, Nunavik in Northern Quebec, and Nunatsiavut in Northern Labrador. These areas comprise Inuit Nunangat, referred to as the Inuit homeland [1]. In 2005, Nunatsiavut became the first Inuit self-government in Canada through the implementation of the Labrador Inuit Land Claims Agreement. Nunatsiavut is constitutionally protected under the aboriginal and treaty rights of Indigenous peoples in Canada guaranteed by section 35 of the Constitution Act, 1982 [3]. It is located in Northern Labrador, in the Province of Newfoundland and Labrador, Canada.

Inuit in Canada experience “greater social and economic inequities than the general Canadian population that impact their health and wellbeing” [4]. Inequities are defined as differences in health status between groups of people that are due to unfair or unjust conditions. Food security exemplifies this definition and is identified as a distinct determinant of Inuit health [5]. Labrador Inuit within Nunatsiavut are less food secure than the general population in Canada. A 2014 survey completed in Nunatsiavut demonstrated that of the households surveyed, only 40.7% of respondents were food secure. In 2014, the same measurement for the general Canadian population was 88.0%. In 2012, 86.6% of the population in the Province of Newfoundland and Labrador were food secure [6,7].

Policy can have an important role in health equity. It can define a plan of action, set priorities, and guide resource allocation [8–10]. In the general Canadian population, the intersection of policy and food insecurity has been an active area of research [11]. Effective policy interventions have alleviated the burden of food insecurity within certain populations in Canada. One example is among social assistance recipients in Newfoundland. Policy changes attributed to reducing food insecurity in this population were addressing insufficient incomes, moving income support clients into work, and addressing the financial vulnerability of income support clients [12]. Another example is within low-income adults over the age of 65 in Canada. Introducing age eligible publicly financed pensions at age 65 for unattached low-income adults is attributed to

reducing the prevalence of food insecurity by half in comparison to low-income Canadians under the age of 65 [13].

Historically, food security has been considered a health issue. However, currently policies for food security are also outside of the health domain [14]. Instead, they are related to factors such as socioeconomic change, geography, environment, and climate change [15]. A variety of international and national documents have policy recommendations that demonstrate a diverse policy space for food security. They include the *Social Determinants of Inuit Health in Canada* [5], the *Report of the Special Rapporteur on the Right to Food* [16], *Recommendations on Northern Sustainable Food Systems* [17], and *Recommendations on Country/Traditional Foods from the Northern Policy Hackathon* [18] to name a few.

For Inuit in Canada, policies pertaining to food security differ by region due to provincial/territorial and federal jurisdictions. Nunatsiavut was chosen for this scoping review primarily due to the low prevalence of food secure households in the region [6] and the identification of food security as a priority in the Nunatsiavut Government Department of Health and Social Development Health Plan [19].

The complete range of policies that pertain to the multidimensional concept of food security and Nunatsiavut has not been explored in recent literature. The range of policies remains unclear and has led to the questions: What are the policies that pertain to food security in Nunatsiavut? And how do these policies relate to the dimensions of food security?

To answer these questions, this scoping review aimed to systematically identify any policy implemented in Nunatsiavut that pertains to food security. A content analysis was then completed to map each policy against the four dimensions of food security (availability, access, utilisation and stability [20]; to assess for gaps and/or policy overlap (i.e. one dimension that has multiple policies). The scoping review was undertaken with the expectation that results could inform actions of stakeholders to advance policy efforts to improve food security in Nunatsiavut.

Objective

To complete a scoping review of the literature on the range of policies that pertain to food security in Nunatsiavut, Labrador. Using the Population, Concept and Context (PCC) elements, the specific objectives of this review are as follows:

- (1) Identify the range of existing policies that pertain to food security in Nunatsiavut;
- (2) Complete a directed content analysis to code each policy against the applicable dimension of food security (availability, access, utilisation and stability).

Materials and methods

This review was conducted following the Joanna Briggs Methodology (JBI) for scoping reviews [21] from April 2019 – October 2019. The findings of the review are reported using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension statement for reporting of scoping reviews PRISMA-ScR [22].

Prior to undertaking this study, a preliminary search for existing or similar scoping reviews was completed. The databases searched were: Joanna Briggs Institute (JBI) Database of Systematic Reviews and Implementation Reports, Cochrane Database of Systematic Reviews, the Evidence for Policy and Practice Information (EPPI) database, and Epistemonikos. No similar or existing scoping studies or systematic reviews were found. This scoping review is new and does not build upon existing reviews. The protocol for this study was published in November 2019 [23].

Inclusion/exclusion criteria

The inclusion criteria for this scoping review followed the relevant population, concept and context (PCC). The population included Labrador Inuit in Nunatsiavut, the concepts were food security and policy, and the context was current regional, provincial and federal policy. Each criterion is described below in more detail.

Population

The studies included published and non-published research studies and grey literature focused on Inuit in Canada, specifically Labrador Inuit in Nunatsiavut. As this is a relatively small population, the studies and documents are either inclusive of or focused specifically on Labrador Inuit in Nunatsiavut. It excluded articles that focused on other Indigenous groups and articles outside of Canada.

Concept

Two concepts were explored in this scoping review; the first was policy and the second was food security. Policy for the purposes of this scoping review is a “general term used to describe a formal plan of action adopted by an actor to achieve a particular goal” [24]. It also included public policy which is the “expressed intent of government to allocate resources and capacities to resolve an expressly identified issue within a certain time frame” [25]. Accordingly, this review included any legislation, regulations or program policy that pertained to food security in Nunatsiavut.

The second concept, food security, is defined as “when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” [20]. Food security has four dimensions. They are *availability*, meaning the quantity of safe and nutritious foods that are consistently available to individuals and meets their tastes and cultural traditions; *access*, which indicates individuals and households have the adequate economic and physical access to food; and *utilisation*, which refers to the proper biological use of food to provide sufficient energy requirements, essential nutrients, potable water and adequate sanitation. This includes the knowledge and skills to prepare and preserve food. *Stability* is the fourth dimension of food security, which refers to the ability to be food secure in the present and the future, mainly through a reliable supply of food products. The first three dimensions of food security are based on a “static concept of food security”. The fourth dimension is reflective of the “dynamic concept of food security” and considers the current and future state of food security. All four dimensions must be met to achieve food security [20,26].

Context

This scoping review focused on any policy that pertained to food security. As Nunatsiavut can be impacted by federal and provincial policies, no restriction was placed on where the policy was developed. However, the policy must be inclusive of or specifically focused on Nunatsiavut and included any policy that has a cultural component such as providing country foods.

Information sources and search strategy

This scoping review included publications of all types (for example research studies of any design, editorials, commentaries). Both published research and grey literature were searched. The grey literature search consisted of government websites and documents, newspapers, national Indigenous organisation websites and publications, and legal documents. Documents in this scoping review only included those in English due to constraints in translation resources. The time limit was documents published from 1985 until 2019.

A search strategy for databases consisted of keywords and MeSH terms related to Inuit, food security and policy (See [Appendix A](#)). The search strategy was conducted on the following four databases: Medline (via ovid), EMBASE (via ovid), CINHALL, and Scopus. A health information specialist provided assistance with the search strategy. A hand search of the circumpolar health bibliographic database and the journals *Food and Food Ways*, *Food Policy Journal*, and *Arctic Journal* was completed. The grey literature search terms consisted of food security and Inuit. The following government databases were searched: Canada Research Index, Government of Canada Canadian Public Documents, and the Royal Commission. Departmental websites were searched for the Government of Canada, the Government of Newfoundland and Labrador, and the Nunatsiavut Government. Additional searches included websites for Inuit Tapiriit Kanatami, Inuit Circumpolar Council, Food First Newfoundland and Labrador, the Labradorian Newspaper articles from 2011–2019 and the Nunatsiavut Hansard Records from 2006–2018. The analysts considered the grey literature search completed when no new policies were identified, and the same data occurred repeatedly.

Patient and public involvement

This scoping review had a Nunatsiavut Government Advisory group that consisted of two representatives from the Department of Health and Social Development. The group's role was to member check the list of policies prior to conducting the analysis to assist in filling potential gaps according to their knowledge of the region.

Study records

Data management

For the research studies, database search results were imported to Covidence Systematic Review Software (Covidence, Melbourne, VIC, Australia). After removal of duplicate articles, citation titles and abstracts were screened. For the non-published studies and grey literature, an Excel file was created with the name and reference for the document.

Selection process

Two independent analysts screened research articles in a two-level process. The level one screening was for the title and abstract of potential studies. Any studies with a yes or maybe proceeded to level two. The full document was then reviewed by the two analysts. If there was disagreement during level one or two, a third reviewer was available to provide a final decision.

The process differed for the non-published documents and grey literature. One reviewer developed a list of documents and added a yes or no and rationale for inclusion into an Excel file. A second reviewer reviewed the list and concurred or disagreed. Again, a third reviewer was available to provide a deciding opinion. The agreed upon documents were fully reviewed by two analysts. The list of identified policies was validated with the Nunatsiavut Government Advisory Group for this project. Two additional policies were added to the initial list as a result of member checking with the Nunatsiavut Government Advisory Group. The results are reported as per the PRISMA flow diagram [\[27\]](#).

Data extraction process and analysis of results

The method by Hsieh and Shannon [28] was used to complete a directed content analysis. This entailed a document review by two independent reviewers to extract the relevant data for each policy using an a priori-designed data extraction form. The form collected information on the following parameters: a description of the policy, the organisation/institution that developed the policy, the definition of food security used or implied, and any stated intended targets or outcomes. The extracted information was compiled in a tabular form. Additional data on the dates for policies, target audience for policy, department that implemented the policy, and place of implementation was added as a result of the document review. Two independent analysts reviewed the extracted data.

The extracted data informed the next step of the analysis, mapping the policies according to the four dimensions of food security. One analyst completed an initial mapping, and the second analyst reviewed the results. Both reviewers were in agreement on the results.

Ethics and dissemination

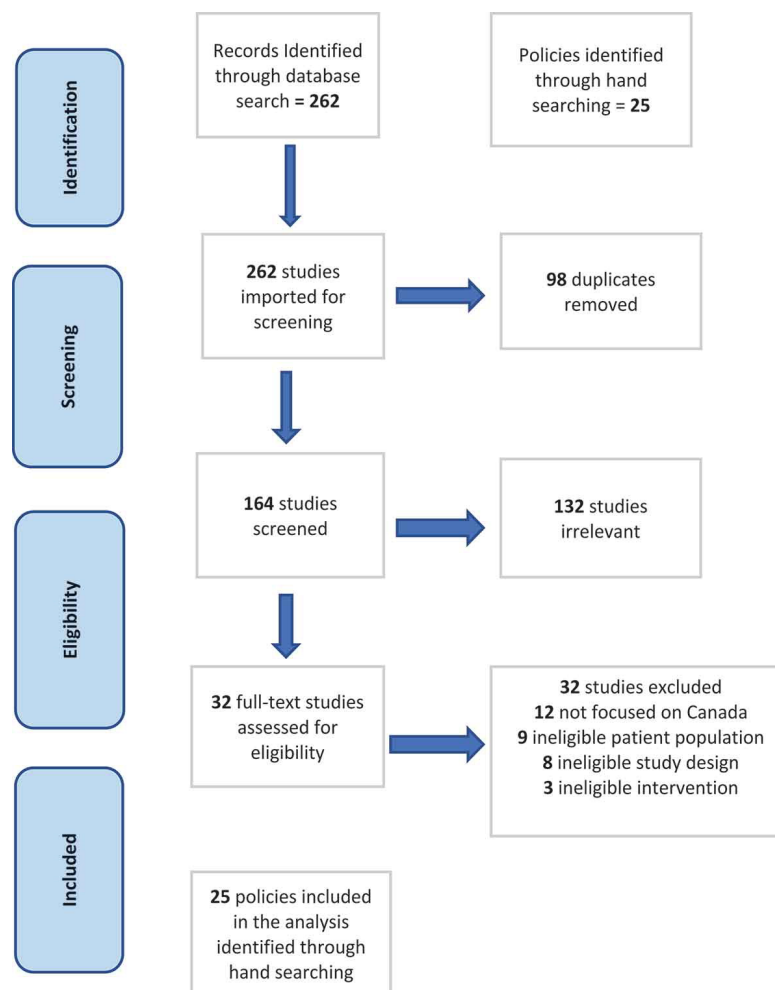
This review did not require primary data collection and accordingly, ethics approval was not required. However, prior to starting the scoping review, the project was reviewed by the Nunatsiavut Government Research Advisory Committee. This group is separate from the advisory group and has a distinct function that involves reviewing research applications for research conducted in Nunatsiavut, to ensure that all research is completed with full knowledge of the Nunatsiavut Government and Labrador Inuit.

Selection of sources of evidence

We screened 164 titles and abstracts. All documents were screened as per the population, concept and context (PCC). One hundred and thirty-two were excluded as they were not focused on Inuit. The remaining 32 titles were reviewed in full. They were excluded as they did not focus specifically on or include Labrador Inuit or Nunatsiavut, focused on measuring food security, described the concept of food security or evaluated a relevant policy but did not provide the required data parameters required for this review. As none of the documents met the criteria, no

documents were identified by the database search. The reviewers were in complete agreement. While not included, these studies identified policies for further exploration in the grey literature. We identified 25 policies through hand searching of various journals, policy documents, and websites. Fulsome policy descriptions were obtained mainly from government websites due to their role in policy development and implementation. These policies formed the basis of the data extracted and analysed for this scoping review. The results are listed in Diagram A: Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension statement for reporting of scoping reviews (PRISMA-ScR) [27].

Diagram A: Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension statement for reporting of scoping reviews (PRISMA-ScR)



Characteristics of identified policies

Twenty-five policies were identified that pertained to food security in Nunatsiavut. Most policies identified were proximal to food security. Fifteen policies (60%) were Government of Canada (federal) policies, seven policies (29%) were the Government of Newfoundland and Labrador (provincial) policies, and three (12%) were the Nunatsiavut Government (Inuit) policies. A description of each policy by jurisdiction is in Table 1. The policy focus varied by government level. Inuit policies focused on governance and resource management, provincial policies focused on social policies and regulations, and federal policies focused on community-based interventions, regulations and governance.

Table 1. Policy description and level of development

Name of Policy	Policy Description
Inuit Policies (Nunatsiavut Government)	
Labrador Inuit Land Claims Agreement; [49]	An agreement between Labrador Inuit as represented by the Labrador Inuit Association, the Government of Newfoundland and Labrador, and the Government of Canada that recognises and affirms the existing aboriginal and treaty rights of the aboriginal peoples of Canada and ‘treaty rights’ in the establishment of a free and democratic government for Inuit.
Inuit Domestic Fishery [29]	All Beneficiaries have the right to harvest at all times of the year throughout the Labrador Inuit Settlement Area. All Beneficiaries are allowed to harvest any species or stock of fish or aquatic plant, excluding salmon species. No person may sell fish or aquatic plants harvested. However, Beneficiaries have the right to give their harvest to other aboriginal individuals and/or trade, exchange or barter amongst themselves.
Wildlife Regulations [30]	Nunatsiavut Beneficiaries have the right to harvest wildlife and plants in the Labrador Inuit Settlement Area. Beneficiaries are able to harvest throughout the Labrador Inuit Settlement Area at all times of the year up to their level of need, unless restricted by Inuit laws under section 12.7 of the LILCA, restrictions imposed for purposes of Conservation under Laws of General Application, or federal laws on firearms control.
Provincial Policies (Government of Newfoundland and Labrador)	
Newfoundland and Labrador Child Benefit Supplement [36]	A provincial tax credit paid monthly to help low-income families with the cost of raising children under 18 years of age.
Mother Baby Nutrition Supplement [37]	A supplementary monthly benefit provided to low-income pregnant mothers and for families with children under the age of one; the applicant must be a permanent resident of Newfoundland and Labrador. It is intended to help with the cost of extra food during pregnancy and infancy.
Income Support Program, Newfoundland and Labrador [38]	Provides families and individuals in need with financial assistance for basic expenses including food, clothing and shelter. The amount received depends on the specific circumstance of each individual and/or family.
Newfoundland and Labrador Seniors Benefit [39]	Intended to help reduce the impact of additional revenue measures on low-income individuals, seniors, families and persons with disabilities. Seniors with a family net income of up to 29,402 CAN can receive a Seniors Benefit of up to a maximum of 1,313. CAN.

Labrador Aboriginal Nutritional and Artistic Assistance Program [31]	The intent of the funding is to administer activities such as nutritional programmes, community freezer programs, food banks, and promotion of artists and artistic endeavours to Indigenous groups in Labrador.
Hunting Ban on George River Caribou Herd [32]	Cease caribou hunting in Labrador. It is developed under the Wildlife Act.
Wildlife Regulations [33]	These regulations provide allowances for the number of licenses provided for various fish and animals. It is developed under the Wildlife Act.
Federal Policies (Government of Canada)	
Employment Insurance Benefits [40]	Employment Insurance provides regular benefits to individuals who lose their jobs through no fault of their own and are available for and able to work but cannot find a job. It is developed under the Employment Insurance Act.
Guaranteed Seniors Income Benefit [41]	The Canada Pension Plan (CPP) provides contributors and their families with partial replacement of earnings in case of retirement, disability or death. The Canada Pension Plan (CPP) retirement pension provides a monthly benefit to eligible participants.
The Canada Child Benefit [42]	A tax-free monthly payment made to eligible families to help them with the cost of raising children under 18 years of age. The amount of the benefit is based on calculations from the income tax and benefit return. Therefore, filing an income tax is one of the criteria for qualifying for this benefit.
Hyperabundant Moose Management Plan 2019 [51]	The Hyperabundant Moose Management Plan proposes the lethal reduction of hyperabundant non-native moose in Gros Morne National Park as a pilot project to test its effectiveness as a management action to restore forest health. The plan recommends that individual volunteer harvesters be permitted to harvest and retrieve moose inside specific areas within Gros Morne National Park. Each year 1,000 licenses are distributed with 50 provided to non-profit groups.
Inuit Permanent Bilateral Mechanism – Inuit - Crown Partnership Committee [50]	Established by the Government of Canada as part of the larger bilateral mechanisms with First Nations, Inuit, and Metis Nation. The Inuit Nunangat Declaration demonstrates the shared commitment to a renewed Inuit-Crown relationship between Inuit Tapiriit Kanatami and the Government of Canada and underscores the common goal of creating prosperity for all Inuit, which benefits all Canadians. The Committee will advance shared priorities between Inuit and the Government of Canada, including the implementation of Inuit land claims agreements, social development, and reconciliation between Inuit and the Government of Canada.
Climate Change Preparedness in the North [47]	Provides investments to increase Nunatsiavut Government's capacity to respond to climate change challenges in the region and to implement their climate change adaptation priorities. These projects include: 1. The Indigenous Guardians Program, which includes the establishment of a climate change liaison position with the Nunatsiavut Government until 2021; 2. The Going Off, Growing Strong Project; 3. Knowledge Exchange Hide Workshop, 4. Infrastructure investments for the assessment of a potential food centre; and 5. Initial Engagement on a Food Security Strategy for Nunatsiavut.
Nutrition North Canada [52]	A Government of Canada subsidy program to bring healthy food to isolated northern communities. Nutrition North Canada works with stores across the North and food suppliers in southern Canada to help make perishable, nutritious food more affordable and more accessible through providing a subsidy for the high cost of stocking and/or shipping perishable nutritious food in the North.
Nutrition North Canada retail and community-based nutrition education [55]	As part of Nutrition North Canada, Health Canada and the Public Agency of Canada fund and support culturally appropriate retail and community-based nutrition education activities in all eligible isolated northern communities. These activities focus on increasing knowledge of healthy eating, developing skills in selecting and preparing healthy store-bought and traditional food, and building on existing community-based activities with an increased focus on working with stores.
The Innovation Strategy [43]	A national grants and contribution programme that provides multiyear funding and support to population health interventions across Canada. One of the areas of focus is achieving

	healthier weights in Canada's communities. Within this area of focus, projects include improving food security in Northern Indigenous communities. The project in Nunatsiavut consists of adapting an approach developed by participating communities in Newfoundland and Labrador, continue implementing community-led food assessments, including community-driven program development, delivery and evaluation, move local and regional coordination, planning and commitment on food security, strengthen partnerships in the food security sector to work together to address local food security challenges in Newfoundland and Labrador. Specific program activities include expansion of the community freezer in Hopedale, food skills programs like traditional cooking and local gardening in Hopedale and Rigolet, the Good Food Box initiative in Rigolet and knowledge exchange activities.
The Aboriginal Diabetes Initiative [44]	Delivers a range of primary prevention, screening and treatment programmes in partnership with Tribal Councils, First Nations organisations, Inuit community groups and Provincial and Territorial governments. Through these activities, the ADI supports prevention, health promotion, screening and care management initiatives that are community-based and culturally appropriate. Community-led food security planning to improve access to healthy foods including traditional and market foods was an enhanced area of focus in the third phase (2010–2015) of the policy.
Canada Prenatal Nutrition Program – First Nations and Inuit Components [45]	A community-based programme that provides support to improve the health and well-being of pregnant women, new mothers, and babies facing challenging life circumstances. This programme includes nutrition counselling, prenatal vitamins, food and food coupons, counselling in prenatal health and lifestyle, breastfeeding education and support, food preparation training, education and support on infant care and child development, and referrals to other agencies and services.
Climate Change and Health Adaptation Program North [48]	Supports projects focusing on human health and a changing climate. The programme enables communities to develop and implement health-related adaptation or action plans, develop knowledge-building and communication materials, and support adaptation decision-making at local, regional, and national levels.
Aboriginal Head Start in Urban and Northern Communities [46]	Provides funding to Indigenous community-based organisations to develop and deliver programmes that promote the healthy development of Indigenous preschool children. It supports the spiritual, emotional, intellectual and physical development of Indigenous children, while supporting their parents and guardians as their primary teachers. Aboriginal Head Start in Urban and Northern Communities sites typically provide structured half-day preschool experiences for Indigenous children (3–5 years of age) focused on six programmes components: Indigenous culture and language; education and school readiness; health promotion; nutrition; social support; and parental involvement.
Marine Mammal Regulations [34]	Provides licences, permits, and funding programmes related to fishing, aquaculture, and marine mammal harvest.
Migratory Birds Convention Act and Regulations [35]	Manages the hunting of migrating game birds through a bi-annual process of consultation resulting in the amendments of the Migratory Game Bird Hunting Regulations and established according to national objectives and guidelines.

The focus of these identified policies was grouped into five broad areas. There were seven policies for *resource management*, both wildlife and fish [29–35]; and *social policies*, specifically income [36–42]. Four policies were related to *health* [43–46], two policies [47,48] focused on *climate change* and two policies [49,50] focused on *governance*. Three policies included food security in their description [43,44,47], with one policy stating it funded local food security projects [43]. The policy characteristics are summarised in Table 2.

Table 2. Characteristics of identified policies

Name of Policy	Time Limit for Policy	Audience for Policy	Evaluation Indicators or Plans for Policy	Government/ Department Responsible for Developing the Policy	Government/ Department Responsible for Implementing the Policy	Place of Policy Implementation	Definition of Food Security in Policy
Labrador Inuit Land Claims Agreement; [49]	No. This Agreement was signed in 2005 and remains binding.	Nunatsiavut Beneficiaries: it is also a legal agreement for working with other governments in Canada.	No	Nunatsiavut Government	All departments of Nunatsiavut Government – Department of Intergovernmental Affairs	All communities in Nunatsiavut.	No
Inuit Domestic Fishery [29]	Under the Labrador Inuit Land Claims Agreement since 2005.	Nunatsiavut Beneficiaries.	No	Department of Lands and Natural Resources	Department of Lands and Natural Resources	All communities in Nunatsiavut.	No
Wildlife Regulations [30]	Under the Labrador Inuit Land Claims Agreement since 2005.	Nunatsiavut Beneficiaries.	No	Department of Lands and Natural Resources	Department of Lands and Natural Resources	All communities in Nunatsiavut.	No
Newfoundland and Labrador Child Benefit Supplement [36]	No. The policy itself was implemented in 1999 and updated in 2016.	Families that qualify within the low-income tax category and have children under the age of 18 years.	Number of recipients are monitored according to the departmental reporting requirements for the Canadian Revenue Agency.	Department of Immigration, Skills and Labour	Administered by the Canada Revenue Agency on behalf of the government of Newfoundland and Labrador.	All communities in Nunatsiavut.	No
Mother Baby Nutrition Supplement [37]	No. The current rate was initiated in 2007.	This funding is targeted towards families and individuals within the low-income tax category. However, the mother must meet specified criteria to receive this benefit.	Number of recipients are monitored by the Newfoundland and Labrador Statistics Agency, Department of Finance.	Department of Immigration, Skills and Labour	Administered by the Canada Revenue Agency on behalf of the government of Newfoundland and Labrador.	All communities in Nunatsiavut.	No

Name of Policy	Time Limit for Policy	Audience for Policy	Evaluation Indicators or Plans for Policy	Government/ Department Responsible for Developing the Policy	Government/ Department Responsible for Implementing the Policy	Place of Policy Implementation	Definition of Food Security in Policy
Income Support Program, Newfoundland and Labrador [38]	No. The policy was updated in 2016.	This funding is targeted towards families and individuals within the low-income tax category.	Number of recipients are monitored by the Newfoundland and Labrador Statistics Agency, Department of Finance.	Department of Immigration, Skills and Labour	Administered by representatives of the Canada Revenue Agency within the province of Newfoundland and Labrador.	All communities in Nunatsiavut.	No
Newfoundland and Labrador Seniors Benefit [39]	No. The policy was updated in 2016.	This funding is targeted towards low-income senior citizens that qualify for the benefit.	Indicators for number of recipients are monitored according to the departmental reporting requirements for the Canadian Revenue Agency.	Fiscal and Economic Policy Branch, Department of Finance	Administered by the Canada Revenue Agency within the province of Newfoundland and Labrador.	All communities in Nunatsiavut.	No
Labrador Aboriginal Nutritional and Artistic Assistance Program [31]	No. The policy was initiated in the fiscal year of 2017.	This funding is targeted towards Indigenous groups in Labrador.	No	Labrador Affairs Secretariat	Nunatsiavut Government is responsible for implementing the policy as it will decide the associated activities.	All communities in Nunatsiavut.	No
Hunting ban on George River Caribou Herd [32]	Yes. Initiated in 2013 for five years and revised in 2018.	Throughout Nunatsiavut.	The ban itself is not evaluated, however there are scientific reports that provide recommendations as to whether the ban should be in place.	Wildlife Division, Department of Fisheries and Land Resources, and the Intergovernmental and Indigenous Affairs Secretariat	The Nunatsiavut Government and their Beneficiaries are responsible for abiding by this policy within their land claims area.	All communities in Nunatsiavut.	No
Wildlife Act [33]	No. The current policy was initiated in 2016.	Hunters within Nunatsiavut.	No	Wildlife Division, Department of Fisheries and Land Resources	Wildlife Division, Department of Fisheries and Land Resources	In Nunatsiavut and throughout the Province of Newfoundland and Labrador	No
Employment Insurance Benefits [40]	No. The time allowances for this	Recipients must meet specified	Participant numbers are monitored	Employment and Social	Employment and Social Development	Throughout Nunatsiavut for people who	No

Name of Policy	Time Limit for Policy	Audience for Policy	Evaluation Indicators or Plans for Policy	Government/ Department Responsible for Developing the Policy	Government/ Department Responsible for Implementing the Policy	Place of Policy Implementation	Definition of Food Security in Policy
	benefit are dependent on the last term of employment. The Employment Insurance Act was established in 1996.	criteria to be considered eligible for the benefit and apply for the benefit within the allotted time frame.	through Statistics Canada surveys.	Development Canada	Canada, Federal Government of Canada in Provinces	qualify for the benefit.	
Guaranteed Income Benefit [41]	No. The policy was first introduced in 1965.	People over the age of 65 who have a low income and are living in Canada.	The number of participants is monitored through Statistics Canada surveys.	Employment and Social Development Canada	Canada Revenue Agency	Throughout Nunatsiavut for people who qualify and apply for the benefit.	No
Canada Child Benefit [42]	No. This policy was first introduced in 2016 and implemented in 2018.	Families with children under the age of 18.	The number of participants is monitored through Statistics Canada surveys.	Canada Revenue Agency	Canada Revenue Agency	Throughout Nunatsiavut for people who qualify for this benefit.	No
Hyperabundant Moose Management Plan 2019 [51]	Yes. Introduced in 2009 and there was a new draft plan for 2019.	Nunatsiavut Government employees. In 2017, 40 licences were administered to four Nunatsiavut Government staff within the wildlife division. The moose meat from this hunt supplied the community freezer program in Nunatsiavut.	The plan has evaluation parameters to monitor the intended components of the plan.	Parks Canada	Co-implemented with Parks Canada and the Wildlife Division Department of Fisheries and Lands Resources.	Gros Morne National Park in Newfoundland	No
Inuit Permanent Bilateral Mechanism – Inuit-Crown Partnership Committee [50]	No. It started in 2017.	The four Inuit Land Claim areas and Inuit throughout Inuit Nunangat.	No	Crown Indigenous Relations and Northern Affairs Canada	Government of Canada and the four Inuit Land Claim areas.	Intended to guide activities in the four Land Claim Areas; the Inuit Nunangat Declaration guides actions.	No

Name of Policy	Time Limit for Policy	Audience for Policy	Evaluation Indicators or Plans for Policy	Government/ Department Responsible for Developing the Policy	Government/ Department Responsible for Implementing the Policy	Place of Policy Implementation	Definition of Food Security in Policy
Climate Change Preparedness in the North [47]	Yes. Announced in February 2018 and consists of time-limited projects.	This is targeted at the general population within Nunatsiavut; however, it depends on the activity.	No	Crown Indigenous and Northern Affairs, Department of Environment and Natural Resources	Nunatsiavut Government.	All communities in Nunatsiavut.	No
Nutrition North Canada [52]	No. The current Nutrition North Canada programme started in 2011. Prior to that, it was the Food Mail Program.	The program is targeted to eligible communities in Canada. All five communities in Nunatsiavut are eligible.	The performance measurement strategy was updated in 2016. Additionally, there are regular reporting requirements for participants.	Crown Indigenous Relations Northern Affairs Canada	Implemented in eligible communities by retailers and suppliers.	All communities in Nunatsiavut are participants.	No
Nutrition North Canada retail and community-based nutrition education [55]	No. There is no time limit for funding.	The programme is targeted to eligible communities in Canada. All five communities in Nunatsiavut are eligible.	The performance measurement strategy was updated in 2016. Additionally, there are regular reporting requirements for participants.	Indigenous Services Canada and the Public Health Agency of Canada. It is situated within the Healthy Living cluster within Indigenous Services Canada and Health Promotion for Public Health Agency of Canada.	Department of Health and Social Services, Nunatsiavut Government.	All communities in Nunatsiavut.	No
The Innovation Strategy [43]	Yes. Phase 1 pilot project started in 2011. Phase 2 lasted from 2013–2017, Phase 3 applicants started in 2017. This will continue until 2020.	The general population.	Evaluations completed for the first and second phase.	Public Health Agency of Canada	The ideas co-developed with this project is led at community level by the Hopedale and Rigolet Inuit Community Governments, with ongoing support from Food First NL.	Rigolet and Hopedale, Labrador.	No
The Aboriginal Diabetes Initiative; [44]	No. Established in 1999, the Aboriginal Diabetes Initiative	The general population within Nunatsiavut.	This programme undergoes periodic evaluations and general reporting	Indigenous Services Canada. This programme policy is within the suite of programmes in the	Department of Health and Social Services, Nunatsiavut Government.	All communities in Nunatsiavut.	Yes, same definition used by the FAO in this article.

Name of Policy	Time Limit for Policy	Audience for Policy	Evaluation Indicators or Plans for Policy	Government/ Department Responsible for Developing the Policy	Government/ Department Responsible for Implementing the Policy	Place of Policy Implementation	Definition of Food Security in Policy
	(ADI) is ongoing.		through the departmental reporting plan required by the Federal Government. Last evaluation report was completed in 2014.	Healthy Living Program cluster.			
Canada Prenatal Nutrition Program – First Nations and Inuit Components; [45]	No. The Canada Prenatal Nutrition Programme (CPNP) was launched in 1995 by the Government of Canada and is ongoing.	Pregnant women within Nunatsiavut	This programme undergoes periodic evaluations and general reporting through the departmental reporting plan required by the Federal Government. Last report was completed in November 2014.	Indigenous Services Canada and is within the suite of programme under Healthy Child Development	Department of Health and Social Services, Nunatsiavut Government	All communities in Nunatsiavut.	No
Climate Change and Health Adaptation Program North [48]	Yes. Established in 2008.	Dependent upon project. Currently not specified.	None identified.	Indigenous Services Canada, Environmental Public Health	Nunatsiavut Government	All communities in Nunatsiavut.	No
Aboriginal Head Start in Urban and Northern Communities; [46]	No. Established in 1995.	Inuit children in one community, Hopedale.	This Programme was last evaluated from 2011–2012 to 2015–2016.	Health Promotion Division, Public Health Agency of Canada	Department of Health and Social Development, Nunatsiavut Government	Hopedale, Labrador as there is only one funded programme.	No
Marine Mammal Regulations [34]	No. Established in 1993, amended in 2018.	Nunatsiavut Beneficiaries who hunt mammals for personal use.	No	Department of Fisheries and Oceans, Environment and Natural Resources Canada	Department of Fisheries and Oceans, Environment and Natural Resources Canada	All communities in Nunatsiavut.	No
Migratory Birds Convention Act and	No. Established in 1994, amended in 2018.	Nunatsiavut Beneficiaries who fish for personal use.	No	Environment and Natural Resources	Environment and Climate Change Canada	All communities in Nunatsiavut.	No

Name of Policy	Time Limit for Policy	Audience for Policy	Evaluation Indicators or Plans for Policy	Government/ Department Responsible for Developing the Policy	Government/ Department Responsible for Implementing the Policy	Place of Policy Implementation	Definition of Food Security in Policy
Regulations [35]							

However, the existence of a policy did not mean that it applied to all Labrador Inuit in Nunatsiavut. This was due to factors such as place of implementation and required criteria to access the stated policy benefit. Three out of 25 (12%) policies were implemented in select communities. These policies included the Innovation Strategy [43], the Aboriginal Head Start in Urban and Northern Communities [46], and the Hyperabundant Moose Management Plan 2019 [51].

At times, a policy required that criteria were met before the stated benefit was received. The criterion for 11 policies included either life stage, income or population. Seven policies had a life stage criterion. These policies included the Canada Prenatal Nutrition Program [45]; for mothers in the prenatal period, the Mother Baby Nutrition Supplement [37] that is provided in the first year of life for a child, Aboriginal Head Start in Urban and Northern Communities [46]; for the early childhood time frame, the Newfoundland and Labrador Child Benefit supplement [36], and the Canada Child Benefit [42] that can be accessed by families with children until the age of 18. The Newfoundland and Labrador Seniors Benefit [39] and Guaranteed Seniors Income Benefit [41] were available to senior citizens. Income was another separate criterion, as four policies required a low-income to access the benefits. These policies included the Newfoundland and Labrador Child Benefit Supplement [36], the Mother Baby Nutrition Supplement [37], the Income Support Program, Newfoundland and Labrador [38], and the Newfoundland and Labrador Seniors Benefit [39]. Population was a criterion for six policies that were available only to Labrador Inuit. These policies included the Labrador Inuit Land Claims Agreement [49], Inuit Domestic Fishery [29], Wildlife Regulations [30], the Aboriginal Diabetes Initiative [44], the Canada Prenatal Nutrition Program [45], and the Aboriginal Head Start in Urban and Northern Communities [46].

Five policies required meeting more than one criterion. These included two policies, the Canada Prenatal Nutrition Program [45]; and the Aboriginal Head Start in Urban and Northern

Communities [46]; policy that had life stage and population as criteria. Additionally, the latter policy was only available in one community. Three policies, the Newfoundland and Labrador Child Benefit [36], the Mother Baby Nutrition Supplement [37], and the Newfoundland and Labrador Seniors Benefit [39] had life stage and low-income as criteria.

The majority of policies (80%) did not have a time limit. However, there were five time-limited policies. They were the hunting ban on George River Caribou Herd [32], the Hyperabundant Moose Management Plan 2019 [51], the Climate Change Preparedness in the North Program [47], the Climate Change and Health Adaptation Program North [48], and the Innovation Strategy [43]. The reasons for the time limitations varied. The hunting ban on George River Caribou Herd [32] and the Hyperabundant Moose Management Plan 2019 [51] were time limited as they are based on assessing the respective wildlife resources. The remainder of the policies were project-based. The majority of the policies (56%) had a stated evaluation plan. Four policies, the hunting ban on George River Caribou Herd [32], the Hyperabundant Moose Management Plan 2019 [51], Nutrition North Canada [52] and the Innovation Strategy [43] specifically stated they had completed evaluations that directed future actions and policy related.

Results

Policy development and implementation varied by the level of government and at times included the private sector. The Government of Canada developed the majority of the policies (60%), and the Nunatsiavut Government developed the least number of policies (12%). All policies were implemented in Nunatsiavut as it was a criterion for inclusion in this scoping review. However, responsibility for the policy implementation varied by level of government and included the private sector. The Nunatsiavut Government was responsible for implementing most of the policies (48%), due to the implementation of community-based programming. The Government of Canada implemented 44% of the identified policies due to their role in implementing policies developed by the provincial government. Both the provincial government and the community-based retailers implemented only one distinct policy each and one policy shared implementation among the Government of Canada and the Government of Newfoundland and Labrador.

At times, differing levels of governments were responsible for developing and implementing the same policy. For example, within the federal government policies, seven out of 15 federal

policies were developed and implemented by another government. One federal policy, the Innovation Strategy [43] also involved a non-government organisation, Food First Newfoundland and Labrador. Another policy, Nutrition North Canada [52] developed by the Government of Canada, was implemented by private retailers. Also, six of the seven provincial policies were developed by the provincial government and implemented by a federal government department.

The framing of an issue impacts how it is understood and the corresponding policy response [53]. The framing of food security as part of the policy was extracted from the policy description. Food security was explicitly in the description for three of the 25 policies (12%). Two of the policies were framed as *health* – the Aboriginal Diabetes Initiative [44], the Innovation Strategy [43], and the third policy, the Climate Change and Health Adaptation Program North [45], was framed as *climate change*. The Aboriginal Diabetes Initiative [44] was the only policy to include a definition of food security in the broader policy description. Only one policy, the Innovation Strategy [43], which funded local projects, stated the project in Nunatsiavut was focused solely on food security.

For the remainder of these policies the pertinence to food security was implicit and they were framed as six areas. Seven policies focused solely on *resource management* [29,30,32–35,51], seven policies focused on *social policies* [36–42] and two policies focused on *climate change* [47,48]. Two policies focused on *governance*, one specifically for Nunatsiavut, the Labrador Inuit Land Claims Agreement [49], and the other the Inuit Permanent Bilateral Mechanism–Inuit-Crown Partnership Committee [50] focuses on Inuit in Canada, and more specifically Inuit self-determination. This policy is specifically discussed in the context of the Government of Canada’s commitment to Truth and Reconciliation [54]. One policy was framed as *nutrition education* [55] and another as *market food availability* [52].

Each policy was mapped against the primary relevant dimension of food security. For this scoping review, the categorisation for the dimension of food security was based on the primary intent of the policy identified in the description and the definition of the food security dimension. However, six policies spanned more than one dimension and accordingly are included in a

separate discussion. The individual policy and the associated dimensions of food security are listed in Table 3.

Table 3: Policies and dimensions of food security

Policy	Dimension of Food Security			
	Availability	Access	Utilisation	Stability
Inuit Policies (Nunatsiavut Government)				
Labrador Inuit Land Claims Agreement [49]	√	√	√	√
Inuit Domestic Fishery [29]	√			
Wildlife Act [30]	√			
Provincial Policies (Government of Newfoundland and Labrador)				
Newfoundland and Labrador Child Benefit [36]		√		
Mother Baby Nutrition Supplement [37]		√		
Income Support Program, Newfoundland and Labrador [38]		√		
Newfoundland and Labrador Seniors Benefit [39]		√		
Labrador Aboriginal Nutritional and Artistic Assistance Program [31]		√		
Hunting ban on George River Caribou Herd [32]	√			
Wildlife Act [33]	√			
Federal Policies (Government of Canada)				
Employment Insurance Benefit [40]		√		
Guaranteed Seniors Income Benefit [41]		√		
Canada Child Benefit [42]		√		
Hyperabundant Moose Management Plan 2019 [51]	√			
Inuit Permanent Bilateral Mechanism – Inuit-Crown Partnership Committee [50]	√	√	√	√
Climate Change Preparedness in the North [47]		√	√	
Nutrition North Canada [52]		√		
Nutrition North Canada retail and community-based nutrition education [55]			√	
The Innovation Strategy [43]	√	√		
The Aboriginal Diabetes Initiative [44]			√	
Canada Prenatal Nutrition Program – First Nations and Inuit Components [45]		√	√	
Climate Change and Health Adaptation Program North [48]			√	
Aboriginal Head Start in Urban and Northern Communities [46]		√	√	
Marine Mammal Regulations [34]	√			
Migratory Birds Convention Act and Regulations [35]	√			

Accessibility was the most frequent dimension associated with the identified policies. This dimension states that individuals and households have the adequate economic and physical access to food. This dimension was addressed in nine policies [31,36–42,52] out of 25 (36%). Seven of the nine policies were social policies [36–42], one policy [31] focused on community freezers, and one policy [52] stated it made market food more accessible.

The next most frequent food security dimension was availability. This dimension refers to the quantity of safe and nutritious foods that are consistently available to individuals and meets their tastes and cultural traditions. Seven [29,30,32–35,51] out of 25 policies (28%) were associated with this dimension, due to the focus on making country foods available for harvest.

The utilisation dimension refers to the proper biological use of food to provide sufficient energy requirements, essential nutrients, potable water, and adequate sanitation. This includes the knowledge and skills to prepare and preserve food. Three policies [44,48,55] were associated with this dimension as they specifically provided education and planning. These policies were the Nutrition North Canada retail and community-based nutrition education [55] that focus on “increasing knowledge of healthy eating, developing skills in selecting and preparing healthy store-bought and traditional or country food, and building on existing community-based activities with an increased focus on working with stores”, the Aboriginal Diabetes Initiative [44] that states “the program supports appropriate community-led planning to improve access to healthy foods”, and Climate Change and Health Adaptation Program North [48] that supports “communities to develop and implement health-related adaptation or action plans, develop knowledge-building and communication materials, support adaptation decision-making at local, regional and national levels”.

Stability refers to the ability to be food secure in the present and the future, mainly through a reliable supply of food products. No policy was solely associated this dimension. Rather, it was encompassed within other policies that spanned several dimensions.

Four policies spanned two dimensions based on the policy description. The Climate Change Preparedness in the North [47] was associated with *accessibility* as it included “The Going Off, Growing Strong Project that aimed to make country foods accessible through the community freezers” and utilisation through “initial engagement on a Food Security Strategy for Nunatsiavut” that focused on education and planning. The Innovation Strategy [43] was associated with *availability* as it included “expansion of the community freezer in Hopedale” and *accessibility*, as it included “traditional gardening in Hopedale and Rigolet” and the “Good Food Box in Rigolet”. Two community-based programs, the Canada Prenatal Nutrition Program [45] and the Aboriginal Head Start in Urban and Northern Communities [46]; were associated with *accessibility* as they provided access to food, and *utilisation* as nutrition education was a part of their program policy.

Two policies were associated with all of the food security dimensions. These policies, the Labrador Inuit Land Claims Agreement [49]; and the Inuit Permanent Bilateral Mechanism—

Inuit-Crown Partnership Committee [50] focused on governance and included a range of areas that pertain to food security and were considered inclusive of all the food security dimensions.

Discussion

To date, policy research on food security and Inuit in Canada have demonstrated that “a more multi-faceted approach is required” to address food security for Inuit in Canada [15], and specifically in Nunavut, that more work needs to be undertaken to meet the pillars of food security [56]. Recognising that each Inuit region is unique, this scoping review focused on identifying food security policies that pertained to Nunatsiavut, Labrador as it is a gap in the current literature on policy and food security and mapping the identified policies against the food security dimensions.

This scoping review identified 25 policies that pertained to food security to Nunatsiavut. The majority of these policies focused on proximal factors for food security. To varying degrees, the content of the identified policies addressed food security dimensions. However, the stability dimension was never addressed in isolation of the other food security dimensions, but rather as a part of a policy. The scoping review results highlighted the breadth of policies, areas of emphasis in food security dimensions and advances in Inuit participation and governance of policies that pertain to food security and the need for further evaluation of policies.

Mapping policies against food security dimensions demonstrated both the breadth of policies and areas of policy emphasis. The accessibility dimension was the most frequently associated food security dimension with the identified policies. These policies made country and market food accessible, or they provided financial resources to purchase foods. Three of these policies Climate Change Preparedness in the North [47], Labrador Nutrition and Artistic Allowance [31], and the Innovation Strategy [43], aimed to make country foods accessible through support of community freezers. It was unclear from the descriptions if these policies were augmenting or duplicating efforts. Only one policy associated with this dimension, Nutrition North Canada [52], focused on making market foods more accessible as the policy was “dedicated to ensuring accessible market foods”. The remaining policies associated with this dimension were social policies focused on providing income to purchase food. These social policies focused on distinct populations, namely women and children and senior citizens. The life stage approach to these

policies is consistent with the literature on populations more at risk for not being food secure [57] and has been a focus of previous research [15].

Availability of food was the next most frequent dimension identified. The majority of these policies focused on resource management that impacts the availability of country foods. Country food is a term that describes “traditional Inuit food, including game meats, migratory birds, fish and foraged foods, and is an integral part of Inuit identity and culture” [58]. Policies identified with this dimension were consistent with other studies that have stated the availability of country foods is “influenced by the environment and ecological conditions that shape the health, abundance, distribution and migration of wildlife populations” [59]. It also reflects the Labrador Inuit Land Claims Agreement [49] that identifies Inuit rights to land and resources that provide country foods. Policies associated with the availability dimension were coordinated across all three levels of government and provided the best example of policy coherence. Food safety policies were considered a gap in this dimension. They are a part of the availability dimension, yet no food safety policies were noted in this review.

Only three policies [44,48,55] addressed the utilisation dimension, which includes health education. The least amount of sole focus on health education and planning may be attributed to a change in understanding of factors impacting food security among Inuit [60] and accordingly a fundamental shift from a personal issue that promotes individual responsibility [53] to a population health issue.

In this review, based on the policy description, no policy solely addressed stability. Stability is important as it impacts a person’s sense of agency, and it is required to break the cyclical nature of not being food secure. In fact, stability is required “to ensure that a population, household and individual do not risk losing access to food as a consequence of sudden shocks or cyclical events” [20,61]. However, stability is considered a cross cutting function, as it is included in both access and availability dimensions over time. It is for this reason that stability was included as a dimension in policies that supported overall governance as these policies spanned more than one area. Therefore, the lack of focus on stability identified in this scoping review may not be due to the policy intent, but rather, interpretation of the policy description.

The availability or accessibility dimension was addressed in 64% of the total policies. This focus is more consistent with food insecurity and specifically household food insecurity, defined as “the inadequate or insecure access to food due to financial constraints” [11]. The high percentage of results focusing on access and availability from this study is consistent with results from a synthesis of food security initiatives in the Inuvialuit Settlement Region, Northwest Territories, Canada, that identified 30 initiatives and mapped each initiative against applicable food security dimensions [59]. However, the results differ from another systematic review on food security dimensions and transitional food security in Alaska [62]. Utilisation was cited as the most common dimension in that particular study. These differences in study findings can be attributed to the scope of the study, namely the focus on health impact of traditional food security, which was not included in this scoping review.

Governance for food security is cited as an important factor for food security efforts on a national and international scale. However, these efforts are not without associated challenges such as a high degree of complexity, coherency and coordination, conflict of ideas, and the allocation of sufficient resources [63]. Two policies pertained to governance, one is Nunatsiavut specific [49] and another is national in scope and includes all Inuit land claim areas [50]. The latter is a partnership and is described as part of Canada’s commitment to Truth and Reconciliation [54]. This includes the national Inuit Crown Food Security Working Group that focuses on food security and working towards a sustainable food system [64].

Inuit self-determination involves participation in both making and implementing policy. Documentation of Inuit participation has demonstrated progress in this area. For example, no Inuit organisations were listed as participants in Canada’s Action Plan for Food Security developed in 1998 [65]. In 2019, the Inuit Tapiriit Kanatami led their own consultation and submitted a full response to the national food policy consultation instead of just participating in broader discussions [66]. In this scoping review, the Nunatsiavut Government developed 12% of the identified policies and implemented 48% of the identified policies. The lower number of policies developed by the Nunatsiavut Government can be attributed to the fact that Nunatsiavut is a relatively new government and inherited many policies that were developed prior to the land claims agreement in 2005. However, they were already implementing these inherited policies as part of broader Indigenous health programming.

Policy implementation was the greatest area of progress for the Nunatsiavut Government. In 2008, Canada's Fifth Report on the Food Security Action Plan reported four Aboriginal specific domestic programmes [67]. The Nunatsiavut Government is currently implementing these four health-related policies [44–46,52] from the Action Plan Report and other policies that span a greater breadth of areas beyond health. These advances in policy implementation for food security can create an interesting dilemma for the Nunatsiavut Government, as they are accountable for the policy outcomes to their members and other governments. This can present a contextual challenge for the Nunatsiavut Government and other Inuit governments in Canada as they implement the legacy of historical policies, while at the same time are striving to determine future policies for food security through their governance structures. How the Nunatsiavut Government and Inuit in Canada overcome these implementation and governance challenges can be a learning experience for other Indigenous peoples, on both a national and international level.

If it existed, the evaluation plan for each policy was noted. However, it was assumed that the evaluation plan corresponded to the outcomes for each policy and not necessarily the impact on food security, or furthermore, food security of Labrador Inuit within Nunatsiavut. Evaluation was acknowledged as a limitation when describing food security initiatives in other Inuit regions within Canada [59]. A fulsome review of each policy evaluation was beyond the scope of this study. However, this remains an important area of further investigation as it will provide a greater understanding of the policy impact and assist with a broader assessment as to whether or not the policy is fair or just.

Strengths and limitations

This study provided a more fulsome overview of policies that pertain to food security in Nunatsiavut. The strength of this study is that it provides an overview of a breadth of policies that pertain to food security in Nunatsiavut and serves as a starting point for further discussion on policy and food security. However, there were limitations to this study, namely the generalisability of findings, the search terms strategy and interpretation of policy descriptions, that impacted the scoping review results.

This study focused on Nunatsiavut, and more specifically, Labrador Inuit. The scoping review findings may not be generalizable to other Inuit land claim areas or Indigenous peoples in

Canada. This scoping review only included policies that pertained to Nunatsiavut. This population criterion may have excluded more distal policies for food security that pertain to the broader Labrador Region of the province, the province of Newfoundland and Labrador as a whole, or it could be indicative of a policy gap.

The variation in detail of activities was a limitation as some policies provided descriptions of activities within Nunatsiavut, and others did not provide the same level of detail. This could have impacted the association of the policy with one or more of the food security dimensions. Another challenge related to description was the policy name and associated activities changed over time. Examples included social policies such as the Newfoundland and Labrador Income Support Supplement [38], Newfoundland and Labrador Seniors Benefit [31], and the Newfoundland and Labrador Child Benefit [37] changed their rates over time. The Aboriginal Diabetes Initiative [44] changed in focus for each phase and only explicitly mentioned food security in the third phase. The Nutrition North Canada subsidy [52] was previously the Food Mail Program and the Labrador Aboriginal Nutrition and Artistic Allowance [31] changed from the Air Foodlift Subsidy Program to the coast of Labrador [68]. This challenge was overcome through utilising the most recent description of the policy. However, it shows that policies are not static, and appeared to be influenced by political context and at times, policy evaluation.

Finally, the intent of a scoping review is to map the information, which in this scoping review was to identify policies. Therefore, validating policy implementation within Nunatsiavut was beyond the scope of this review. This is a required future step to understand the policy implementation activities and validate the association of policies with food security dimensions.

Conclusion

This scoping review contributes to filling the gap in the literature on policy and food security in Nunatsiavut. The breadth of policies, and levels of government identified, and variety in policy development and implementation, underscore the complex policy space that must be navigated by the Nunatsiavut Government and Labrador Inuit. This scoping review demonstrated that for Inuit, it is not only the policy framing and focus, but also how the policies support Inuit governance, and self-determination on a regional and national level. This is perhaps the most important aspect of food security policies for Inuit in Canada and within the circumpolar region.

The scoping review findings can inform the efforts of policy actors within and outside of Nunatsiavut, and the broader research community in their future research, policy and advocacy actions. Future areas of investigation remain for policies that pertain to food security such as determining the distal policies for food security and evaluating policies currently in place in Nunatsiavut. The latter will contribute to understanding the policy impact; and potentially to the broader conversation as to whether or not the policy is fair or just. It is hoped continued efforts are undertaken to build a more fulsome understanding of the food security puzzle in Nunatsiavut and improve the health and well-being of Labrador Inuit.

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Appendix A: Search terms

Search terms used:

aborigin*

american

ancestry

arctic

care

central

circumpolar

continental

environmental

first

fiscal

food

group

group*

health

indians,

indigenous

individual*

insecurit*

inuit

inuits

metis

nation*

native
north
nutrition
nutrition*
oceanic
people*
person*
policies
policy
public
reform
region*
regions
right*
securit*
south
supply
tribe*

4.3 — Article 3: Improving food security of Labrador Inuit in Nunatsiavut, Labrador: A matter of health equity

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Abstract

Background: The current low state of food security among Inuit in Canada is influenced by policy choices. Policy actors develop and implement policies, yet few research studies include their perspectives. This study includes policy actors' perspectives on gaps and areas of improvement for policies that pertain to food security for Labrador Inuit in Nunatsiavut. Nunatsiavut is one of the four Inuit land claim areas in northern Canada making up the Inuit homeland, or Inuit Nunangat. It is situated in northern Labrador in the province of Newfoundland and Labrador, Canada.

Methods: This qualitative study consisted of key informant interviews conducted from July 2020-December 2020 with policy actors that spanned the Nunatsiavut Government (regional Inuit government), Government of Newfoundland and Labrador (provincial government), the Government of Canada (federal government), non-governmental organizations and private industry. Participants were asked about their role, policy gaps and opportunities for improving policies that pertain to food security in Nunatsiavut. It also included initial insights from emergency food security measures implemented during the first wave of COVID-19 in 2020.

Results: Fifteen participants completed semi-structured interviews and three participants provided written responses. Seven participants (39%) stated they developed policy, six participants (33%) stated they both developed and implemented policy and five participants (28%) stated they implemented policy. The results were reported as per the consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist. Seven themes were identified from discussions with policy actors. Policy recommendations to improve food security include improving transportation, social policies and policy coherence in policy implementation. Five separate themes were identified from discussions on implementing emergency food security measures during the first wave of COVID-19 in Nunatsiavut. These included inadequacy of social policies, hidden poverty among people living in Nunatsiavut and future considerations for post- COVID-19 food security policies.

Conclusion: The results of this study show that improving food security of Labrador Inuit in Nunatsiavut is a matter of health equity. During COVID-19, these inequities were further highlighted, demonstrating the importance of urgent action. Findings from this study can inform actions to improve existing and future policies that pertain to food security for Labrador Inuit in Nunatsiavut.

Key Words: Policy, Food Security, Inuit

Background

Inuit in Canada are among the least food secure in the developed world (1). Food security is a social determinant of Inuit health (2). The World Health Organization (WHO) states that social determinants of health are “the conditions in which people are born, grow, live, work and age, including the health system. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels” (3). These circumstances are influenced by policy choices (2). Policy choices are influenced by many factors including the evidence, stakeholder advocacy and the economic and political context (4). In the last 15 years, research has increased on the topic of policy measures to improve food insecurity in Canada (5-15). Despite this increase, this research area remains underdeveloped in comparison to community-based interventions. Bastian and Coveney noted in their review of food security interventions that over three times as many articles focused on local level programs, in comparison to the number of articles focused on potential policy changes to improve food security (16).

For Inuit in Canada, policy research on food security needs to consider both the policy subject and how the policy is developed. For Inuit, this creates meaningful policies (1) and is an important part of Inuit self-determination in Canada. Indigenous self-determination and engagement are outlined in article 3 and article 19 of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Article 3 declares “Indigenous Peoples are guaranteed the right to freely determine their political condition and the right to freely pursue their form of economic, social and cultural development” (17). Article 19 declares “States shall consult and cooperate in good faith with the Indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them” (17).

However, the interpretation of self-determination varies with the lens from which it is viewed. From a political science perspective, self-determination links two concepts — autonomy, which aims to restore autonomy to Indigenous Peoples over matters that affect their daily lives, and integration, which is Indigenous Peoples’ ability to influence decisions of non-Indigenous governments that may still have the authority to make decisions that impact Indigenous communities. They refer to these two concepts as self-rule and shared rule (18). The UNDRIP

definition of self-determination and the political science perspective on self-determination agree on the premise that Indigenous Peoples should have ownership over their decisions. However, they differ on the scope of Indigenous Peoples' influence on policies that affect them. Free and informed prior consent as outlined in article 19 of UNDRIP is different than ability to influence. This is an important distinction as the lens of self-determination used in policy making processes can influence the degree to which Indigenous Peoples are engaged in the policy development and implementation process and whether defined mechanisms exist to support these processes.

Policy actors are defined as “any individual or group that is directly or indirectly, formally or informally, affiliated with or affected by the policy process at any stage. They can include governments, businesses, non-government organizations, civil society organizations and communities as well as individuals” (19). There is a scant amount of research on policy actors' roles or their perspectives on policies that pertain to food security for the general Canadian population and/or Indigenous Peoples in Canada in particular. Instead, the research tends to focus on the effectiveness of a single policy and its impact on those living with food insecurity (5-15). In 2018, McIntyre et al. (20) completed a survey of policy actors for food insecurity in Canada. Study results identified policy actors' roles and their connections within a national food security policy network. For policy actors such as the Inuit Tapiriit Kanatami (ITK), a national Inuit organization in Canada, policy recommendations to improve food security form the basis of their advocacy efforts (21-24). These efforts include a variety of mechanisms such as the Inuit-Crown Partnership Committee, which is a permanent bilateral mechanism between Inuit in Canada, and the Prime Minister of Canada (25).

This study focuses on policy actors who are involved with development and implementation of policies that pertain to food security for Labrador Inuit in Nunatsiavut. Nunatsiavut is one of the four Inuit land claim areas in Canada and is located in northern Labrador, in the Canadian province of Newfoundland and Labrador. The land claim area has its own Inuit self-government. The Nunatsiavut Government was formed in 2005 after the Labrador Inuit Association, Government of Canada, and Government of Newfoundland and Labrador signed the Labrador Inuit Land Claims Agreement (26). Due to the geographic location and the Labrador Inuit Land Claims Agreement, policy actors spanned three governments — the Government of Canada

(federal government), the Newfoundland and Labrador Government (provincial government) and the Nunatsiavut Government (regional Inuit government). Policy actors also span non-government organizations, national Inuit organizations and private industry that make policy recommendations, advocate for policies and have a role in policy implementation. Moreover, this study took place after emergency food security measures were implemented in Nunatsiavut during the first wave of COVID-19 in 2020 (27). This study provides insights from policy actors on policies that pertain to food security in both usual and emergency circumstances for Labrador Inuit, an Indigenous population in northern Labrador.

Methods

Study aims

This qualitative study consisted of key informant interviews conducted with policy actors who work with policies that pertain to food security in Nunatsiavut. This study primarily aims to answer research questions focused on policy actors' roles and perspectives on improving policies that pertain to food security in Nunatsiavut. The questions consisted of: What are the roles of the policy actors? Was the Labrador Inuit context considered in policy development? How could policies be improved to address food security in Nunatsiavut? Are there any gaps in policies for food security in Nunatsiavut? And who is ultimately responsible for food security in Nunatsiavut? The timing of this study coincided with initial emergency food security responses implemented in Nunatsiavut during the first wave of COVID-19 in Canada (March 2020-July 2020). During this time, specific emergency food security measures were implemented for Labrador Inuit and are described later in this article. Accordingly, a secondary set of research questions focused on the COVID-19 measures that consisted of: Has COVID-19 raised the priority of food security within the respective department/organization? Has COVID-19 highlighted any vulnerabilities in the food system? Were additional actions taken to address food security during COVID-19?

Study design

The research team consisted of five members. RB is a dietitian and a Ph.D. Candidate with the University of Ottawa who is from Labrador. GT is Inuit and a beneficiary of the Labrador Inuit

Land Claim, who retired in 2012 from the position of Director of Health Services for the Nunatsiavut Government, Northern Labrador. CF is a researcher focusing on environmental health risk assessment, management and communication in cooperation with Indigenous populations and communities living in rapidly changing environments such as coastal and Arctic ecosystems. CF is a professor and Director of the Indigenous Environmental Studies and Sciences Program at Trent University. IDG is a sociologist and health services researcher who studies knowledge translation and research co-production. He is a professor in the school of epidemiology and public health at the University of Ottawa and senior scientist at the Ottawa Hospital Research Institute. LD, a dietitian and Ph.D. in sociology is a full professor with the Faculty of Medicine School of Epidemiology and Public Health, University of Ottawa and her expertise is on nutrition and social inequalities at the population level. The research team developed the interview questions through an iterative process with a Nunatsiavut Government Advisory Group specifically for this research project.

The Nunatsiavut Government Advisory Group spans several departments within the Nunatsiavut Government. The research team identified key topics through an initial discussion and developed specific questions. The Nunatsiavut Government Advisory group provided feedback on these questions, which included revising existing questions and adding additional questions. These questions were then divided into four sections that focused on the policy role, areas of improvement, policy gaps, who people worked with on a specific policy, and the COVID-19 pandemic and food security in Nunatsiavut. Additionally, through the two ethics review processes, one from the University of Ottawa (H-12-18-1901) and the other from the Nunatsiavut Government Research Advisory Committee (NGRAC-21431201), feedback was provided on initial study questions. RB coordinated feedback on interview questions from various team members and revised drafts of the interview guide.

When completed, the questions were pilot tested with two initial interviews. After the pilot test, RB added one question that asked what lens they used to view the issue of food security. This question was added as the participant was approached based on their role. Through the initial pilot test, RB realized that the policy role was not the only lens impacting their views. For example, it could be a professional lens, Inuit identity, or others, in addition to their official role. The final set of questions were used for the remaining interviews. The interview guide is located

in Appendix A.

Participant selection and recruitment

Two methods, purposeful and snowball sampling, were used to identify potential interview participants. We chose these methods to ensure the sample could provide “the type of knowledge necessary to understand structures and processes of local context” (28). RB identified 17 potential participants through purposeful sampling from a previous study (29) that identified policies that pertained to food security in Nunatsiavut. Five additional potential participants were identified through snowball sampling. No further participants were sought when data saturation was reached. Participants were recruited by sending emails requesting an interview.

Data collection

RB sent each participant an invitation to participate that included an introduction to the interviewer and overview of the research project, a consent form and interview questions in advance of the interview. Written consent was obtained from each participant prior to the interview. RB conducted interviews from July 2020 until December 2020 at a home office. Interviews were conducted via Zoom or by phone as it was not possible to travel within Canada because of COVID-19 travel restrictions. On average, interviews lasted one hour and 30 minutes. All interviews were audio recorded and transcribed verbatim. Each participant reviewed their transcript for accuracy and had another opportunity for input. All transcripts and written documents were anonymized before data analysis.

Data analysis

This study used a traditional thematic analysis that identified, analyzed, organized, described and reported themes found within this data set (30). Data analysis was completed by one person who also transcribed the interviews. Transcripts were entered into the NVivo 12 qualitative analysis software (31). Data were organized through a first cycle coding that included *attribute coding*, which summarized participant information, and *structural coding* that organized the data by parent nodes based on question responses. The second cycle included *pattern coding*, which involved creating a list, or inventory, of nodes based on common participant responses. A

codebook was created, and these codes informed the themes from the data (32). Study results are reported according to the recommendations in the Consolidated Criteria for Reporting Qualitative Research (COREQ) (33). Table 1 (See Appendix A) contains a completed checklist of the consolidated criteria. The study results were sent to participants via email for review. Any comments provided were incorporated into the study. Some participants did not have comments but indicated their approval of the study results via email.

Results

In total, 15 semi-structured interviews were completed (13 out of 17 from purposeful sample and two out of five from snowball sample). No repeat interviews were conducted. Three participants (two from purposeful sample and one from snowball sample) provided written responses. Five people did not respond to a request for an interview. RB prepared notes prior to the interview, completed the interviews and completed memos immediately after each interview. RB is from Labrador and had previously worked in as a health professional in Labrador, including Nunatsiavut as a health professional. Therefore, the topic and area were familiar to RB. The results are presented in three parts: Part 1 describes study participants; Part 2 provides an overview of policy actors' recommendations for improving policies that pertain to food security and existing gaps; Part 3 describes the policy actors' observations about food security in Nunatsiavut while implementing emergency food security measures during the first wave of COVID-19 in Nunatsiavut.

Part 1: Overview of participants

The majority of participants (78%) self-identified as female and 22% self-identified as male. Of the total participants, ten (56%) were employed by the Nunatsiavut Government, four (22%) were employed by the provincial government (Newfoundland and Labrador), two (11%) were employed by the federal government (Government of Canada), one participant (6%) was employed by a non-governmental organization and one participant (6%) by private industry. Thirteen participants (72%) stated they worked with policies that directly pertain to food security, two participants (11%) stated they worked indirectly with policies pertaining to food security and three (17%) reported not working within the area of food security policy. Seven

participants (39%) stated they developed policy, six participants (33%) stated they both developed and implemented policy and implementation, and five participants (28%) considered policy implementation as their main role. Participants were not asked about Inuit identity. Only two participants identified their lens, which was a health professional lens. Table 2 (See Appendix A) contains an overview of participant characteristics.

Part 2: Policy actors' recommendations pertaining to policies for food security in Nunatsiavut

Seven themes were identified from the key informant interviews. They ranged from awareness of the food security issue within Nunatsiavut to issues with current policies and recommendations for improving current policies that pertain to food security.

Theme 1: Improving food security is a priority for the Nunatsiavut Government

“One of the things I know is that food security is becoming a really top topic.” (participant eight)

Participants from Nunatsiavut stated that food security is a priority within the region. There is increased awareness by staff working within Nunatsiavut and the general public, as Nunatsiavut Government staff receive suggestions from the general public on actions to improve food security. Participants identified a variety of factors that contributed to the increased awareness. These included food security projects in the region, communication of recent research study results showing the prevalence of household food insecurity on a regional and community level, placing food security on the Department of Social Health and Development Plan, and community level food security working groups, including one that has existed for ten years. Due to an increased awareness, people within Nunatsiavut reached out to Nunatsiavut Government staff with ideas for food security programming (participant 1).

An increased awareness came with an expectation for the Nunatsiavut Government to act quickly. This brought forward discussions on both types of programs and policy interventions required and the Nunatsiavut Government's capacity to respond to this issue.

Most Nunatsiavut Government participants stated that their programs had a component or activity that addressed food security. In addition, the Nunatsiavut Government increased their capacity to support all aspects of food security — including programming, policy and advocacy through having dedicated staff. The Nunatsiavut Government has a permanently funded core team focused on food security that includes regional policy and coordinator roles and community level worker positions. Participants reported that while a success, challenges remain such as staffing positions and a high turnover that impacts implementing community-based and regional activities.

Food security as a priority is increasing for the provincial and federal government. Participants from both the provincial and federal government stated they were aware that food security is an issue for Nunatsiavut and there is a need to continue to work on this issue with the Nunatsiavut Government.

Theme 2: The Labrador Inuit context is always a key consideration in policy making

“The Indigenous perspective is an important part of any work we do.” (participant 18)

All participants stated that Labrador Inuit interests were an important consideration for policy development and implementation. For the Nunatsiavut Government, a focus on Labrador Inuit was paramount as they represent the needs of Labrador Inuit. However, the degree to which the Labrador Inuit context is addressed was seen to depend on two factors: the policy focus and degree of policy flexibility during implementation. Regarding focus, at times “the Labrador Inuit context was the reason for implementing a policy” (participant three) and the particular policy. For other policies, especially those developed by the Government of Canada or Province of Newfoundland and Labrador, Labrador Inuit were a part of a larger overarching policy that considered Indigenous contexts, but not specifically Labrador Inuit. The Labrador Inuit context was tailored during implementation but at times this depended on policy flexibility. At times, it was up to the “Indigenous group to identify how to best spend the money” (participant six). In other instances, the Nunatsiavut Government had to implement the policy according to predetermined activities.

Theme 3: Factors impacting food security in Nunatsiavut

“You can’t share what you don’t have.” (participant 11)

Participants noted the breadth of factors that impacted food security, including mental health, substance use disorders and climate change. However, participants cited four consistent factors including lack of available country food and market food, lack of access to market food, lack of income to purchase food and/or lack of food skills.

Eight participants, seven from the Nunatsiavut Government and one from a non-government organization, stated lack of country food availability, namely the loss of caribou, was a factor that severely impacted food security within Nunatsiavut due to the lack of a nutritious food and “the cultural transmission has been lost” (participant three). The loss is due to the George River caribou herd hunting ban that stopped all caribou hunting within Nunatsiavut. To compensate for this loss, several policies exist to support hunting and transporting moose meat from Newfoundland to northern Labrador to support community freezers within Nunatsiavut. However, this program only supplements country food. As participant 11 explained, “Yeah. So, it's not intended to replace access to George River caribou because people would have had enough caribou in their freezer, but it is a way to supplement country food. It is not a way to replace the loss of the George River caribou. It cannot, it is just not enough.”

All participants stated that market food availability is impacted by transportation and storage. In winter, airplanes transport food and in summer food is transported by airplane and boat. Air transportation infrastructure issues such as short runways impact the size of planes that can land. These small planes (Twin Otters) limit the amount of food that can physically be brought into a community at one time. Moreover, there are no storage facilities at airports or boat docks. The lack of transportation infrastructure and storage impacts food quality, and accordingly, availability and access. As participant 16 stated, “Fresh fruit is like, how fresh is it once you get it? For a couple of weeks just recently, all of our fresh berries and our lettuce and stuff like that, it just went right into the garbage bin. It was already developing mold. So, the quality of what we're getting up here is horrible, but we're still paying the cost of the freight to get it here. And

then it goes into the trash can. And then the people are not having their fresh fruits and vegetables for that week because you just had to throw it all in the garbage.”

All participants stated that food prices are a factor impacting access to market food. However, participants from the Nunatsiavut Government provided insight into the factors influencing transportation costs and electricity costs. Participants stated that even with a subsidy, electricity costs are higher in northern Labrador. This impacts food costs when almost 75% of a building is used for storage and requires electricity. Also, freezer repair costs for grocery stores and community freezers are a unique consideration as the repair person must fly into the community. This means repair costs start when the person travels and can include an hourly wage for two or three days, flight costs and accommodation. There is also no guarantee the issue can be fixed at that time, possibly requiring another visit to complete the task.

All participants stated that a lack of income to buy food was a significant factor impacting access to market food. Participants stated those with income issues, including people who rely on income support payments, have short-term employment and/or minimum wage jobs that were not adequate to cover the cost of living, and specifically, the cost of food in northern Labrador.

Finally, participants suggested the lack of food skills was another factor impacting food security. The skills noted ranged from budgeting and cooking market foods to the preparation of country foods. Participants from Nunatsiavut, the provincial government and the federal government involved with policies that focused on nutrition education and/or country foods, surmised the lack of food skills — both market foods and country foods — were due to residential school experiences that prevented learning these skills from immediate and extended family. Participants also stated these experiences negatively impacted some people’s relationship with food.

Theme four: Improving policies for food security within Nunatsiavut

“There’s always room for improvement.” (participant 11)

Given the breadth of factors impacting food security in Nunatsiavut, all participants identified policy improvements and/or policy gaps. Generally, participants outside of Nunatsiavut did not comment on how policies could be improved, as they felt it was not within their purview. However, they could identify policy gaps based on their knowledge of the issue. Participants provided suggestions for improving policy in three areas: policy transparency, air transportation infrastructure and income support. Three policy gaps noted were regulation of both food and freight prices and sharing country food across the north. Wildlife monitoring was considered both an area of improvement and a policy gap.

Participants cited policy transparency as an area of improvement. This is important as it supports policy improvement through understanding what is not working with a particular policy. Nutrition North Canada was often cited as an example of a policy that lacked transparency. For example, participant one stated, “I think the more transparency that we can infuse into how all these systems work, the better we’ll be able to understand them and understand what can be changed, what can’t, what needs to be done differently. But a lot of these policies seem to be black boxes to the average person.”

A second area of improvement identified by participants was air transportation infrastructure. Suggestions for improvement consisted of improved airport runway length, which would allow for bigger planes to transport food. Another suggestion was to have storage facilities at airports and docks to ensure food was adequately stored when transportation issues such as delayed flights or unexpected landings occurred. There was only one suggestion to improve shipping; this suggestion included increasing the number of boats that travel to the north coast of Labrador in the summer due to the short shipping season.

Income support was the third area of policy improvement. This was suggested as participants deemed current income support rates insufficient to provide enough money for food and other costs of living. However, suggestions for improvement differed. Some proposed that the policy should be increased to the cost of living in northern Labrador, whereas others recommended removing this policy altogether and replacing it with a Guaranteed Basic Income funded at sufficient levels.

Regulation of food prices and freight prices were identified as policy gaps. Several participants expressed their disbelief that alcohol prices are regulated but not food or transportation.

Participant 10 stated: “Why can't they regulate milk? It has to cost a lot to get beer and because shipping is based on weight. What I don't understand is, it shouldn't be permitted that the price of a two liter of milk should not exceed X amount of dollars. But yet it does.” Participants felt stabilizing freight prices through regulation would promote lower and consistent food costs.

Another policy gap noted for country food was sharing country foods across areas of the north. There are policies in place to encourage country food consumption within Nunatsiavut, but they can only encourage consumption of foods that exist. Sharing country food was suggested as there is a caribou ban in place in Labrador but not in the other Inuit land claim areas. However, within Nunatsiavut other country foods are available such as seal and char.

Participants considered monitoring of fish and wildlife both an area of improvement and a policy gap. The Nunatsiavut Government develops and monitors fish and wildlife limits for personal use or for economic development. However, there is not a lot of scientific data to support limits set by the Nunatsiavut Government, and accordingly participants viewed this as an area for improvement. The Federal Government of Canada monitors species but only those at risk. Participants considered the lack of monitoring for species other than those at risk a policy gap.

Theme five: Policy effectiveness reduced because of lack of policy coherence

“You won’t get buy-in from people to try new foods and you know, if the food costs are just too out of reach for them and their families in the communities.” (participant nine)

Related to, but distinct from policy improvement and gaps, is the lack of policy coherence during implementation among some policies that pertain to food security. For example, the lack of effectiveness of Nutrition North Canada negatively impacts the effectiveness of the Nutrition North Canada Education Initiatives and the nutrition education component of community-based programs. As participant nine stated, “The challenge that we often hear is that we can do all of the nutrition education that we want, within communities. It is important, but if the costs of these

foods are still too high and are not affordable, the nutrition education part of the program suffers when the subsidy part of the program is not working to bring food costs down. They go hand in hand.”

Another example of policy incoherence in implementation is Nutrition North Canada and income support. As participant seven stated, “Nutrition North subsidizes fresh produce, that’s like one of their priority areas. And the thing is, if you are impoverished, and you are getting \$12,000 a year, you know, broken out into cheques or whatever, from the Government of Newfoundland, if you only have a budget of like \$30.00 on groceries and a bag of peppers costs \$10.00 you know, if you only have like \$9.00 to spend on vegetables, it doesn’t matter that the peppers only cost \$10.00 instead of \$20.00.”

In one example, one policy inhibited another policy activity. As participant 14 stated, “Last year, we had plans to do an outing and then we received notification from Transport Canada that we were no longer allowed to use, like, local people in the community to take people in [a] speedboat, for example, to do different activities that we had planned.” In this example the Transport Canada policy did not allow local people in the community to bring others for hunting or fishing. This action impacted delivery of the hunting and fishing activities that are focused on country food skills. These activities are part of a policy that is focused on food security and climate change.

Theme six: Everyone should share the responsibility for food security within Nunatsiavut

“Nobody’s ultimately responsible, everybody has responsibility.” (participant nine)

Most of the respondents stated that food security is a shared responsibility that “goes right back to the supplier, to the transportation system, to different levels of government, to the retailers, so there’s a lot of people that would be factors that play in food security for sure” (participant three). It also included community members as “community members also have a responsibility to take care of each other; that was and is the Inuit way” (participant two). Three participants disagreed on responsibility: one participant stated it was a provincial responsibility and two

participants stated it was an individual responsibility.

However, participants stated responsibility was not shared equally across jurisdictions. This depended on jurisdictional issues as each level of government operates within their own area of influence, roles and mandates. Three participants stated that the provincial government shared more of a responsibility due to their role in social policies and transportation. For example, participant 1 stated, “There’s elements that are related to food security that the Nunatsiavut Government has no control of, like an example would be minimum wage. That’s not in our jurisdiction, but it’s directly impacting us.” Participant 13 stated, “So even though you have the airstrip in Nain...it’s sitting there. That’s a provincial jurisdiction for transport even though it’s sitting in your land claims area?”

Also, when partners are not fulfilling their responsibility, it impacts progress towards policy goals. For example, not all Indigenous groups within Labrador are implementing the hunting ban on George River caribou herd and it is not enforced by the Province of Newfoundland and Labrador. As participant 11 stated, “The province has a mandate to ensure compliance with their hunting ban and they seem to be very lax on enforcing the ban order. There’s no will, or very little will to ensure compliance when a group is saying that they’re not going to follow the guidelines.”

Defined structures and strength of relationships impacted how responsibilities were negotiated and shared. As participant 11 stated, “We do have a lot of working relationships with the federal and provincial governments because we need to do that, in order to be able to do our jobs.” When these relationships exist and effective mechanisms are established, it leads to collaborative decision making, supports mutual priorities and leverages opportunities such as funding.

Theme seven: Inequitable treatment of Labrador

“You know, being in Labrador, we’re kind of the last people to be served.” (participant 15)

Throughout the interviews, participants from Nunatsiavut voiced a sense of resignation as things

have not seemed to change over time since they were developed, despite the known difficulties with issues such as transportation. Participant 17 stated, “I mean, I just can’t believe how in this day and age how unequal it is. It is almost like they’re just resigned to the fact that the north coast communities have to pay this much to travel, to buy their foods, and it’s not right.”

One participant explained that one of the reasons why these issues continue to persist is related to the lack of questioning and accepting the status quo. Participant seven explained that “Speaking from a cultural trait, most people won’t question. While this can be considered a beautiful cultural trait, it can have a negative impact when people are not questioning why things are the way they are as it can lead to a lack of accountability by governments and private industry.”

Part 3: What did the Nunatsiavut Government learn about food security in Nunatsiavut from implementing the COVID-19 emergency responses?

In April 2020, the Nunatsiavut Government instated a Food Supplement program specific to “supporting individuals and families impacted by COVID-19 and those most vulnerable to the virus” (27). For market food, the program included vouchers for food. Priority for programming was given to “seniors aged 60 years and older who were on fixed incomes, people living with disabilities, single parents, low-income families receiving income support, living on fixed-pension incomes or employment insurance, and individuals and families who have had their employment hours cut or have been laid off because of the pandemic.” (27).

These emergency measures were developed and implemented very quickly; in essence it was the first of its kind for food security within Nunatsiavut. While these measures pertain to food security, they are temporary. Given these factors, a separate thematic analysis was conducted on the responses for the COVID-19 Food Supplement program implemented in Nunatsiavut. As this experience augmented discussions on current policy approaches to improving food security in Nunatsiavut, the results are included in this study.

Most of the responses on the Nunatsiavut policy implementation were provided by Nunatsiavut Government participants. Those outside of Nunatsiavut did not comment on the particular interventions, but rather the issue of food security and COVID-19 more broadly. Five themes

emerged from experience of providing the emergency Food Supplement program implemented during the first wave of COVID-19 in 2020.

Theme one: Halting community-based programs due to COVID-19 restrictions showed gaps in emergency food system responses.

“COVID-19 has highlighted the challenges that exist in the emergency food response system.”
(participant 18)

Participants described how food security within Nunatsiavut is usually supported through community-based programming via health services, community freezers and school-based interventions that all have a food component. When these activities were restricted due to pandemic measures, very few measures were available to support food security in Nunatsiavut, creating an urgency for emergency food supplements. Additionally, COVID-19 impacted food sharing practices among community members and households. Participant 7 stated, “So those that needed to have a lot shared with them, that couldn’t happen. So, we were really isolated.” While the Nunatsiavut Government could continue to support hunting and community freezers, there were no mechanisms to provide market food through community programs. This was a gap, and the subsequent basis for the Food Supplement program.

Theme two: The impact of COVID-19 travel restrictions increased awareness of interconnectedness of the market food system.

“I think it [COVID-19] has highlighted how fragile the food system is.” (participant 11)

Participants noted that food could only be provided if it was available. As a result of COVID-19 restrictions, the reliance on the broader food supply, storage and transportation services were highlighted as issues impacting food availability. As transportation routes were disrupted, it was difficult to obtain required goods. This was compounded by the lack of inventory in the spring of the year. Inventory is ordered in the fall of the year, and stores tend to have low inventory by spring. New food orders are placed when the marine system starts in the late spring/early

summer. Through the COVID-19 experience participants realized the vulnerability of the broader food system.

Theme three: The impacts of the COVID-19 lockdown showed the number of people living on the edge of poverty in Nunatsiavut.

“A lot of people had extreme difficulty, especially seniors and those that were close to the poverty level.” (participant 7)

During the initial COVID-19 lockdown, some people within Nunatsiavut temporarily lost employment and required assistance. These people required extra support during COVID-19 as during usual times they are living on the edge of poverty. As participant 17 stated, “We were aware of it before with the survey, but we saw a lot more during COVID-19.”

Theme four: The need for COVID-19 measures showed the inadequacy of usual policy approaches to food insecurity.

“One thing I know that we started running into, was that like, the stores aren’t used to people having money.” (participant 10)

The Food Supplement program provided enough support that people could buy adequate amounts of food to eat. This impacted stores and as Participant 16 stated, “The store started running out of stock for like a lot of stuff because suddenly people had access to money that they wouldn’t normally have access to, and also specifically money that was like, not just cash that they could spend on anything, you know, but like, specifically on food.” Participants who were responsible for implementing the program stated that the emergency measures highlighted the inadequacy of current policy approaches to food insecurity that focus on income i.e., income support and do not provide enough support to buy adequate amounts of food. The COVID-19 experience also highlighted the need to work on longer-term action on poverty.

Theme five: The COVID-19 emergency responses prompted discussions on the future of food security within Nunatsiavut

“We’re currently developing a survey to send to people throughout the government to reflect on what they learned, like through the service delivery that we’ve been doing.” (participant 13)

In April 2020, the Nunatsiavut Government implemented the COVID-19 Food Supplement program. Providing emergency relief was a new role for the food security team, and more generally, for the Nunatsiavut Government. This experience offered those working on food security within Nunatsiavut an opportunity to include food security as part of emergency responses, but also carries a risk that this could be considered a main part of food security efforts moving forward, pending funding. This experience has prompted discussions among policy actors on what is the scope of the role for food security efforts within Nunatsiavut and what could they learn from this experience to apply to approaches for improving food security in Nunatsiavut in the future? Participants from the provincial and federal governments also stated the COVID-19 experience has raised awareness of food security and prompted the same type of forward thinking about approaches for food security in the future.

Discussion

For Labrador Inuit in Nunatsiavut, and Indigenous Peoples in Canada broadly, food security is a complex issue impacted by many factors. The participants in this study highlighted key factors that impact food security for Labrador Inuit that can contribute to a better understanding of the issue. Moreover, as noted in the introduction, Inuit in Canada consider food security as a distinct determinant of Inuit health, and it is further impacted by health inequities. The World Health Organization (WHO) Commission on the Social Determinants of Health report provides principles and actions to improve health equity (3). Two of the WHO principles are consistent with the participants’ suggestions for improving food security. The first principle is improving the conditions of daily life that focus on creating social protection policies supportive of all and create conditions for a flourishing older life. The second principle is tackling the distribution of money, power and resources that address inequities in the way society is organized. This requires strengthened governance, from the community level to global institutions, and for people across

society to agree on public interests and reinvest in collective action (3). These principles are consistent with the specific suggestions that pertain to food security in the Nunatsiavut context and form the basis of improving policy responses for food security in Nunatsiavut, Labrador, Canada.

Ensure policies address cultural aspects of food security for Labrador Inuit

Study participants identified a range of factors that impact food security in Nunatsiavut. These included income support rates, climate change and loss of wildlife, transportation and food costs. These factors are consistent with previous studies completed in Nunatsiavut (34,35) and within the rest of Canada (5). Two factors focused on Inuit culture and how their loss contributes to a lack of food security. These factors were a lack of market and country food skills and the loss of country foods due to the George River caribou herd hunting ban.

For Inuit and other Indigenous Peoples in Canada food skills pertain to market food and country food. Within the general Canadian population, a 2016 study showed that food skills and cooking ability for adults in food insecure households did not differ from others and were not associated with the odds of household food insecurity when sociodemographic characteristics were taken into account (36). However, participants in this study noted that market food skills are an area of improvement and should be further incorporated into future policy and programming efforts.

Traditional food education, specifically teaching traditional food skills in the family, was perceived as a facilitator of food security among Inuit in Nunavut (37). Participants in this study, that focused on Labrador Inuit in Nunatsiavut noted a loss of country food skills and mainly attributed this loss to the impact of residential schools that disrupted family teaching of country food skills. This finding is consistent with other publications on residential schools and Inuit health (38,39). Work has begun to repair the relationship with food. As participant 17 stated, “We are talking about positive memories of food for the first time.” Participant 14 stated that improving country food skills is a focus of one of the policies that pertain to food security. This focus is perceived as a success as participants have provided positive evaluations of these activities.

From both a cultural and sustainability perspective, the loss of the George River caribou herd is one of the greatest perceived impacts on food security within Nunatsiavut. As participant 17 stated, “Everybody’s suffering from not being able to, to go out and hunt caribou.” Other studies noted the same impact on Labrador Inuit in which participants explained that food security was ultimately dependent on the land’s ability to support healthy populations of animals and vegetation (34). Caribou is both a source of nutrients for Inuit and a connection to the land (34,40,41). The caribou ban has led to an emotional response from Labrador Inuit that includes grief, sadness and frustration (40). As noted previously, working towards removing the hunting ban will require efforts from others besides Labrador Inuit and reinforce the need for collaborative decision-making mechanisms.

In addition to providing insight into the factors that contribute to a lack of food security for Labrador Inuit, these factors highlight a limitation of the existing food security dimensions of access, availability, utilization and stability (42). For First Nations and Inuit in Canada, cultural food security has been defined as the ability to reliably access important traditional foods through traditional harvesting methods, including hunting, fishing and gathering, to ensure the survival of their cultures (43,44). Alonso et al. (45) have built on this initial definition to state that food security exists when there is the availability, access, utilization (i.e., food preparation, sharing and consumption; foodways) and stability of cultural foods. Others have suggested that culture should be a separate dimension of food security (44,46). Including culture food security as a part of food security strategies and as a separate food security dimension is consistent with the Inuit Right to Food (24). These suggestions can be part of future discussions on making food security dimensions relevant for Inuit in Canada, and Indigenous Peoples more broadly.

Develop a food security in all approach to policy development and implementation

Throughout multiple themes of this study participants identified the need to improve policies from two perspectives, the effectiveness of the individual policy and the impact of one policy on another, which is referred to in the literature as policy coherence. The Organisation for Economic Co-operation and Development defines policy coherence for sustainable development as the systematic promotion of mutually reinforcing policies across government departments to create synergies towards achieving agreed objectives and to avoid or minimize negative spillovers in

other policy areas (47). Both effective policies and policy coherence are required to improve food security for Labrador Inuit.

Social protection across the life course is a critical aspect of improving health equity. The World Health Organization recommends that “social protection systems should be at a level that suffices for healthy living” (3). One source of social protection in Canada is income support which is the “program of last resort for working aged adults” (48). However, studies on income support and food insecurity within Canada show that income support recipients are the most food insecure, as “over two thirds of income support recipients report some sort of food insecurity” (11). This is due to the amount of income support provided.

Study participants stated the amount of income support provided to recipients within Nunatsiavut did not provide enough money to buy adequate amounts of food and needs to be improved. Labrador Inuit who qualify receive income support from the Province of Newfoundland and Labrador. A recent analysis of income support rates in Newfoundland and Labrador showed that by all income cut-off measures, a family of four on income support in St. John’s, the capital of the Province of Newfoundland and Labrador, would be living in “deep poverty” (49). The costs of living on the northern Labrador coast are higher. For example, focusing only on food costs, the Government of Newfoundland and Labrador’s calculations for the cost of a weekly food basket are 56% higher for northern Labrador than St. John’s (50). Yet, according to the Newfoundland and Labrador Legislation on income support, there is only an 8.5% increase for a family of four receiving income support living on the coast of Labrador (51). The need for a Food Supplement program by income support recipients during COVID-19 augmented existing evidence of the insufficient amounts and illustrated that when community-based supports are not available, structural determinants such as social policies become even more important to support people experiencing food insecurity.

Research on improving income support shows that food insecurity among social assistance recipients in two Canadian provinces, Newfoundland and Labrador (12) and British Columbia (15), reduced when income support benefit levels increased. There is also an increased call for a Guaranteed Basic Income as a way forward after COVID-19 for all provinces in Canada (52), a

feasibility study is underway in Nunavut (53) and a Guaranteed National Income is a recommendation in the recently released National Inuit Action Plan on Missing and Murdered Inuit Women, Girls, and 2SLGBTQQIA+ people, specifically action item 4.2 that states: To reduce poverty among Inuit, the federal government must develop a national basic income model in partnership with Inuit that, when implemented, will support Inuit families living around or below a jurisdiction's poverty line (54). From these study results, it was difficult to determine if improving the existing policy is preferred over a new approach. This will have to be determined in further conversations with Labrador Inuit and will depend on the political and economic factors post COVID-19. Regardless of the mechanism, improving social policies can improve food insecurity and health equity.

The World Health Organization states policy coherence is crucial for health equity. Policy coherence and food security have been studied for specific aspects of food security in South Africa (55), agricultural policies in the Organisation for Economic Co-operation and Development (OECD) (47) and across the European Union (56). Policy incoherence is when policies aim for different goals and are made in isolation from each other. This raises the risk of differing policy objectives, outcomes and impacts (57). Policy incoherence undermines achieving common goals, which in this study is improving food security. Within this study, participants identified policy implementation experiences that exemplified policy incoherence.

As an individual policy, several issues including lack of transparency and effectiveness have been noted about the Nutrition North Canada program in previous studies (11,15) and were reiterated by participants in this study. These issues impacted the effectiveness of Nutrition North Canada and contributed to policy incoherence during policy implementation as it did not support other policy outcomes, namely effective nutrition education and access to food. However, the Nutrition North Canada program is also impacted by other policies, namely increased freight costs and landing fees for airplanes, which are set by the Province of Newfoundland and Labrador (58).

Improving policy coherence is an important consideration for the person who is experiencing food insecurity as they may be the recipient of several policy interventions. To improve policy

coherence, policy development, implementation and evaluations need to take into account other policies that pertain to food security. This begs the consideration for food security in all approach that includes intersectoral action due to the number of policies outside of health and measuring policy coherence as a part of policy evaluation. Beyond these factors, due to the number of governments that develop and implement the range of policies, established roles must be defined and mechanisms must be in place at all levels of government to advance a food security in all approach.

Develop mechanisms to ensure the Nunatsiavut Government is included in policy development by other jurisdictions

Political empowerment, inclusion and voice is one of the actions listed within principle two for improving health equity, namely tackle the inequitable distribution of money power and resources (3). To achieve this goal there are two specific suggestions for what must be done. The first is “Strengthen political and legal systems to protect human rights, assure legal identity and support the needs and claims of marginalized groups, particularly, Indigenous Peoples” and “Ensure the fair representation and participation of individuals and communities in health decision-making as an integral feature of the right to health.” (3). The Nunatsiavut Government is a self-government; however, this government has a unique role compared to federal and provincial governments. The Nunatsiavut Government must both govern Labrador Inuit and advocate for policy change to other governments (federal and provincial) when required. Recent media reports citing requests from the Nunatsiavut Government to address transportation issues in the region (59), or during discussions on the Nutrition North Canada program (60) are examples of Nunatsiavut Government advocacy to address gaps in policies that pertain to food security. The advocacy role can require aligning with other non-governmental organizations or Indigenous organizations.

The variety of roles required of the Nunatsiavut Government is one of the reasons Wilson and Per Sele (18) state that Inuit regional governance extends along both the vertical continuum (e.g., local, regional, national and international levels) and horizontal continuum (Inuit organizations such as land claims organizations, and national and transnational organizations). Each of these levels have government or non-government policy actors that play a role in advocating for,

implementing and/or developing policies that pertain to food security in Nunatsiavut.

At times, the Nunatsiavut Government may be part of processes that represent both horizontal and vertical continuums. One example is the direct engagement between Inuit leaders from the Inuit Tapiriit Kanatami (ITK) and the Inuit Land Claim areas and the Government of Canada through the Inuit-Crown Partnership Committee (25). For Nunatsiavut this mechanism represents a horizontal continuum with ITK and a vertical continuum with the Government of Canada. This same mechanism does not exist within the Government of Newfoundland and Labrador. Rather, a separate government department is largely responsible for focusing on social and economic issues within Labrador and engages the Nunatsiavut Government. However, this department does not lead all the policies that pertain to food security, but rather is more of a consultation and coordinating mechanism within the provincial government. This type of engagement appears to align with shared rule as noted by Wilson and Per Sele (18), rather than being consistent with self-determination as outlined in the United Nations Declaration on Rights of Indigenous Peoples (17).

To improve health equity and to improve governance of policies that pertain to food security, mechanisms for engaging with the Nunatsiavut Government or with Nunatsiavut Government program representatives need to be established and maintained with the Province of Newfoundland and Labrador. These mechanisms provide the opportunity to ensure the Nunatsiavut Government is involved in the development and implementation of policies that affect them.

Learning from a pandemic: Key insights from implementing the COVID-19 Food Supplement program

Within Nunatsiavut, the news release on the latest budget stated: “Many Labrador Inuit continue to experience high levels of food insecurity. The impacts have been much more visible since the start of the pandemic.” (61). The COVID-19 experience showed that usual policy approaches to food security were not sufficient in times of a pandemic and there was a gap in emergency programming that had to be filled quickly. Stability is a dimension of food security that states people must be able to access food at all times and in times of shock or crisis (42). Therefore,

next steps and future discussions need to focus on how approaches to food security will emphasize the stability dimension of food security. Also, the Nunatsiavut Government showed leadership in response to the COVID-19 pandemic. However, this came at a cost to other programs as people redirected work to focus on the safety of communities and ensuring required supports were implemented. The focus on emergency food programs during COVID-19 posed the question of the future role of food security programming and policies for Labrador Inuit within Nunatsiavut.

Limitations

There were limitations in this study. Firstly, the participant selection process of purposeful and snowball sampling could have missed potential participants. Including more participants from outside of Nunatsiavut and from other governments and non-governmental organizations may have revealed additional issues. However, given most study participants had direct experience with policy implementation within Nunatsiavut the views obtained in this study reflected the reality of the circumstances of policy implementation in Nunatsiavut. Furthermore, we were reassured that our findings were credible given that data saturation was reached with the participants included in the study. A second limitation was the inability to travel to the community to complete in-person interviews. This prevented an in-person connection between the PI and participants, and a fulsome observation of body language by the PI. The remaining limitation was that only one person, RB, completed the interviews and data analysis. To overcome this limitation, and improve credibility, member checking was completed with participants and the team members provided feedback on the themes and data analysis.

Conclusion

These study results provide an overview of a few distinct factors that contribute to the low state of food security experienced by Labrador Inuit in Nunatsiavut, provides suggestions for improving policy, suggests policy gaps and illustrate that *how* a policy is developed is as important as the policy itself for Indigenous Peoples. The emphasis on food security during the COVID-19 pandemic further highlighted the importance of this issue for Labrador Inuit, illustrated inequities in current policies and provides an opportunity to consider different policies to improve food security in the future.

This study suggests that improving policy responses for food security are consistent with suggested actions for improving health equity. The post COVID-19 policy responses may not mean doing more of the same, rather taking actions to ensure a fair and more just approach to improving food security. It is our intention and hope that this article contributes to these improved actions among policy actors in various roles — from advocacy to implementation — who focus on policies that pertain to food security. And ultimately, work towards improving food security of Labrador Inuit in Nunatsiavut.

Declarations

Ethics approval and consent to participate

Both the University of Ottawa (H-12-18-1901) and the Nunatsiavut Government Research Advisory Committee (NGRAC-21431201) provided ethics approval for this project. Informed written consent was sought and provided by each participant of this study.

Consent for publication

Not applicable

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing Interests

The authors declare they have no competing interests.

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Authors' contributions

All authors contributed to the questionnaire design and conception of the study. RB completed the key informant interviews, completed the thematic analysis and wrote the original draft and revisions of the study. LD provided feedback on the analysis. LD, GT, IDG and CF critically appraised drafts and provided significant input into this study. All authors read and approved the final manuscript.

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Appendix A

Key informant interview questions

Date: _____

Time: _____

Section 1: Overview of role

1.a. What is the name of your department/organization?

1.b. What is the mandate of your department/organization?

1.c. What is your title?

1.d. Describe your main role in (insert name of policy).

1.e. Would you consider your role in this policy to be:

Setting the policy agenda _____

Develops policy _____

Implements policy _____

Other: Please state _____

Section 2: Overview of the policy (insert name of policy)

2.1: You were provided with a copy of the policy description with these questions. Has the policy description changed since it was published? If so, can you describe how it has changed?

2.2: From your department/organization's perspective, does this policy pertain to food security in Nunatsiavut?

2.2.1: Do you have a particular lens that influences your perspective on food security and this policy?

2.3: Policy Development

2.3.a. From your department/organization's perspective, was the Labrador Inuit context (i.e., relevant evidence or approaches) considered when developing the policy?

2.3.b. From your department/organization's perspective, were there any other considerations when developing this policy?

2.3.c. Can you describe who your department/organization consulted with when developing this policy?

2.3.d. Can you describe the consultation process?

2.3.e. How was gender considered when developing this policy?

2.4 Policy Implementation

2.4.a. Who does your department/organization work with to implement this policy?

2.4.b. What activities pertain to food security associated with policy implementation?

2.4.c. Are there any opportunities and/or challenges encountered when implementing this policy?

2.5 Policy Evaluation

2.5.a. Can you describe the policy evaluation? Was there anything specific to food security?

2.5.b. If no, is there an intent to evaluate the policy in the future? Will there be a focus on food security?

2.5.c. How could this policy be further improved to address food security in Nunatsiavut?

2.6 Other considerations

2.6.a. From your department/organization's perspective, who is ultimately responsible for food security in Nunatsiavut?

2.6.b. From your department's/organization's perspective, what are the policy gaps for food security in Nunatsiavut?

2.6.c. From your department's/organization's perspective, what other policies are required for food security in Nunatsiavut?

2.6.d. Has the recent COVID-19 experience raised the priority of food security within your department/organization?

2.6.e. Has the COVID-19 situation highlighted any vulnerabilities in the food system? If yes, can you please describe?

2.6.f. Were any additional actions taken to address food security during COVID-19?

- If yes, can you please describe?
 - Would you like to see some of these actions continued on a longer-term basis?

Section 3: Mapping policy networks

3.a. What other governments/departments/organizations do you work with to develop or implement food security policy?

3.b. Using the scale below, with 1 being the weakest and 5 being the strongest, can you estimate the strength of your relationship?

1 2 3 4 5

3.c. Can you please tell me how you decided on this rating?

Section 4: Final comments

4.a. From your perspective is there anyone else I should interview?

- If yes, please state who and why?

4.b. Is there anything else you would like to add?

Thank you for your participation.

Table 1: Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

Topic and item No.	Guide questions/description	Listed in text and page number
Domain 1: Research team and reflexivity		

Personal Characteristics		
1. Interviewer facilitator	Which authors conducted the interview or focus group?	RB conducted the interviews. p.5 of article
2. Credentials	What are the researcher's credentials?	The researcher's credentials are as follows: RB RDt.CDE M.Ad.Ed. GT, BScN, M.Ad. Ed., CF B.Sc., M.Sc., Ph.D. IDG PhD, FCAHS, FNYAM, FRSC, LD DPt, PhD. In addition to these credentials the researcher's backgrounds are listed on p.5 of article.
3. Occupation	What was their occupation at the time of this study?	The researchers' occupations are as follows: RB is a Ph.D. Candidate with the University of Ottawa, GT, is a Labrador Inuit Land Claims Beneficiary, CF is a full professor in the Department of Indigenous Studies and Sciences Program, Chanie Wenjack School for Indigenous Studies, Trent University, IDG is a Senior Scientist with the Centre for Practice-Changing Research, Ottawa Hospital Research Institute and a full professor with the School of Epidemiology and Public Health, Faculty of Medicine, University of Ottawa and LD is a full professor with the Faculty of Medicine School of Epidemiology and Public Health, University of Ottawa. They are listed on p.5 of article.
4. Gender	Is the researcher male or female?	The PI is female. Of the remaining committee members, two members are female and two are male.
5. Experience and training	What experience or training does the researcher have?	The PI has completed qualitative studies during her master's degree and has taken several courses in qualitative research and evaluation at the master's and PhD level. The other research committee members have extensive experience in research and many publications.
Relationship with participants		
6. Relationship established	Was a relationship established prior to the study commencement?	Yes, as the PI and two other research team members have been involved with other research studies involving the same population. Moreover, one research team member is a beneficiary of the Labrador Inuit. Noted on p.5 of article.

7. Participant knowledge of interviewer	What did participants know about the researcher? e.g., personal goals, reasons for doing the research.	The reasons for completing the research were provided with an overview of the study as per the University of Ottawa Ethics Materials. This information was provided to each participant prior to the interview. The materials were provided to each participant and are noted on p 5 of article.
8. Interviewer characteristics	What characteristics were reported about the interviewer/facilitator?	The characteristics of the PI included her role in the study. This was noted in the introductory materials for the research project. These materials were provided to each participant and are noted on p.5 of article.
Domain 2: Study design		
Theoretical framework		
9. Methodological orientation and theory	What methodological orientation was stated to underpin the study? e.g., grounded theory, discourse	None.
Participant selection		
10. Sampling	How were participants selected? e.g., purposive, convenience, consecutive, snowball	Purposive and snowball sampling. Noted on p.6. of article.
11. Method of approach	How were participants approached? e.g., face-to-face, telephone, mail, email	Participants were approached via email. This was the only way possible as many people were working from home and could not be reached at work; there were also travel restrictions due to COVID-19. Noted on p.5 of article.
12. Sample size	How many participants were in the study?	18. Noted on p.6 of study.
13. Non-participation	How many people refused to participate or dropped out? Reasons?	Five. No reasons were provided. Noted on p.6 of article.
Setting		
14. Setting of data collection	Where was the data collected? e.g., home, clinic, workplace	At a home office. Due to the COVID-19 restrictions in place there was not an opportunity to work from anywhere else but home. The COVID-19 restrictions were noted on p. 5 of article.
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	No. Noted on p.5 of article.
16. Description of sample	What are the most important characteristics of the sample? e.g., demographic data, date	Their role in a policy that pertained to food security in Nunatsiavut and/or their knowledge of food security in Nunatsiavut, self-identified gender, position, policy role. See table 2.
Data collection		

17. Interview guide	Were questions, prompts or guides provided by the authors? Was it pilot tested?	The questions were provided in advance of the interviews. The questions were pilot tested with one person before the interviews started and the first two interviews served as a pilot for the remainder of the interviews. One question was added as a result of this pilot process. Noted on p.6 of article. Research questions are included as a separate attachment.
18. Repeat interviews	Were repeat interviews carried out? If yes, how many?	No. Noted on p.6 of article.
19. Audio/visual recording	Did the researcher use audio or visual recording to collect the data?	Yes. Audio equipment was used. Noted on p.6 of article.
20. Field notes	Were field notes made during and/or after the interview or focus group?	Yes, memos were recorded immediately after each interview and notes were taken throughout the analysis process. Noted on p.6 of article.
21. Duration	What was the duration of the interviews or focus groups?	On average each interview was 1 hour and 30 minutes. Noted on p.6 of article.
22. Data saturation	Was data saturation discussed?	Yes. Noted on p.6 of article.
23. Returned transcripts	Were transcripts returned to participants for comment and/or correction?	Yes, each verbatim transcript was returned to participants for verification. The transcripts were reviewed by participants and returned to the researcher. Noted on p.6 of article.
Domain 3: Analysis and findings		
Data analysis		
24. Number of data coders	How many data coders coded the data?	One. Noted on p.6 of article.
25. Description of coding tree	Did the authors provide a description of the coding tree?	A modified version was described in the results section, as there were two separate analyses due to distinct questions asked about the COVID-19 experience. Noted on p.6 of article
26. Derivation of themes	Were themes identified in advance or derived from the data?	They were derived from the data. Noted on p.6 of article
27. Software	What software, if applicable, was used to manage data?	NVivo version 12. Noted on p.6 of article.
28. Participant checking	Did participants provide feedback on the findings?	Yes. Noted on p.6 of article.
Reporting		
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation number identified? e.g., participant number	Yes. See pages 7-14 of article.
30. Consistent data and findings	Was there consistency between the data presented and the findings?	Yes. See pages 7-14 of article.

31. Clarity of major themes	Were major themes clearly presented in the findings?	Yes. Each of the themes are presented individually. See pages 7-14 of article.
32. Clarity of minor themes	Is there a description of diverse cases or minor themes?	Yes, when applicable. See pages 7-14 of article.

Table 2: Overview of participant characteristics and roles

Participant Number	Self-identified gender	Nunatsiavut Government	Provincial Government	Federal Government	Private Industry/ NGO	Policy Development	Policy Implementation	Both
Participant 1	Female	x						x
Participant 2	Female	x						x
Participant 3	Female				x		x	
Participant 4	Female		x			x		
Participant 5	Female		x			x		
Participant 6	Female		x			x		
Participant 7	Female	x						x
Participant 8	Female	x					x	
Participant 9	Male			x		x		
Participant 10	Female	x					x	
Participant 11	Male	x						x
Participant 12	Male			x				
Participant 13	Female	x				x		
Participant 14	Female	x						x
Participant 15	Male	x					x	
Participant 16	Female				x		x	
Participant 17	Female	x				x		
Participant 18	Female		x			x		

Chapter 5: Discussion and conclusion

Inuit in Canada have identified food security as an Inuit determinant of health (Inuit Tapiriit Kanatami 2014). Inuit in Canada have informed national policy frameworks (Inuit Tapiriit Kanatami 2016, 2017, 2019) and most recently in 2021, the Inuit Tapiriit Kanatami developed their own Inuit Nunangat Food Security Strategy (Inuit Tapiriit Kanatami 2021). Policy and legislation are a distinct area within this strategy, highlighting its importance in improving food security of Inuit in Canada. As stated previously, policy and legislation are the mechanisms to take the rights-based discourse on Indigenous Peoples rights or the right to food from discussion to action. Policies play an important role in shaping a person's life through either contributing to inequities or improving inequities. Inequities, in turn, influence the conditions where disparities exist such food insecurity for Inuit in comparison to the general Canadian population. Policy research can play a critical role in determining how to improve existing inequities.

In Canada, over the past 15 years, policy research focused on food insecurity has increased. However, policy research and food security remain an underdeveloped area. This may be partially attributed to the complexity of policies and determinants of health such as food security. Embrett and Randall state that “challenges such as multiple causations, intersectoral action, a life course perspective, complex causation, data problems, effect of globalization and impact and dominance of other policies are deterrents for researchers when studying policies and determinants of health” (Embrett and Randall 2014, 154).

Throughout the research process, many of the above noted complexities were encountered, including multiple causation, a life course perspective and the influence and dominance of other policies. Another complexity was the dynamic nature of policies. For example, during the course of this research, some policies were long standing and part of the core programming in Nunatsiavut such as the Canada Prenatal Nutrition program, at least one policy ended (the Innovation Strategy ended in 2020) and an emergency intervention was established (COVID-19 measures introduced in 2020 are expected to end when the emergency measures cease). Another factor adding to the complexity is that the process of the policy development cycle that has many stages. The participation, and direction of Indigenous Peoples needs to be considered throughout all stages in policy the policy development process. Finally, as noted in article two, and to be discussed later in the results, development and implementation of policies by different levels of government adds to the complexity pertaining to food security policy analysis.

The complexities discussed above, when possible, were acknowledged in the methods and discussed in the limitations throughout the research articles, and in the limitations in this chapter. While Embrett and Randall (2014) suggest that the complexity of policy research is a deterrent, I view the complexity more as a call to action to the broader academic community and policy actors focused on this issue. This thesis attempts to participate in this call to action through undertaking policy research to identify and review the range of policies pertaining to food security among Labrador Inuit in Nunatsiavut. This chapter provides discussion points based on the results of the three articles. These results can inform current policy implementation, future research advocacy efforts for policy actors and researchers who are working to improve food security of Labrador Inuit in Nunatsiavut.

5.1 Overview of thesis purpose and summary of main findings

This thesis asked the broad question: What is the role of policy in food security of Labrador Inuit in Nunatsiavut? The assumption is that there is not one role for policy in food security, and the potential impact differs—policies can potentially improve and/or negatively impact food security of Labrador Inuit. However, the existence of a policy does not mean it will improve food security. Jackson and Huston (2016) suggest that the success or failure of any healthy public policy initiative may be measured in terms of health equity gaps. The gap in food security for Labrador Inuit (40.7%) and the general Canadian population (88.0%) suggest that policy approaches need to be improved—but the question is how?

The three articles in this thesis, *Coming full circle: A critical review of the historical changes in governance, nutrition, and food security of Labrador Inuit between 1500 and 2005*, *Piecing together the Labrador Inuit Food Security policy puzzle in Nunatsiavut*, *Labrador: A scoping review and improving food security of Labrador Inuit in Nunatsiavut*, *Labrador: A matter of health equity* formed the basis of a policy analysis. Combined, these articles focused on the range of policies that pertain to food security for Labrador Inuit in Nunatsiavut—in the past and present—and provides suggestions for improving policies to ultimately improve food security for Labrador Inuit in the future.

The first article provided a critical historical narrative of the long-term impact of colonization by various governments and institutions, including the British Government, the Moravian Mission, the Provincial Government of Newfoundland and Labrador, and the

Government of Canada on food security of Labrador Inuit. Changes such as forced settlements, participation in economic pursuits, social policies such as income support and residential schools disrupted Labrador Inuit's relationship with their land, food, and among themselves. While this article traced the changes in governance and nutrition interventions and food security policies over time, it also highlighted the resilience of Labrador Inuit. The results of Labrador Inuit's continued advocacy created the first Inuit self-government in Canada. In summary, this article provided an overview of the unique history of Labrador Inuit and an understanding of how these historical factors contributed to the present-day food insecurity of Labrador Inuit.

The second article focused on the current policies that pertain to food security for Labrador Inuit. Food security is a multidimensional concept. Recognizing the multidimensional aspects of food security coupled with the geographic location and the political context of Nunatsiavut, the second article sought to identify a range of policies that pertain to food security in the Labrador Inuit and understand the dimension(s) addressed by each policy. This article also identified who within the various levels of government is developing and implementing policies that pertain to food security for Labrador Inuit. This latter point was particularly relevant in the context of Indigenous self-determination in Canada.

The third article sought to understand the perspectives of policy actors who have a role in developing and implementing policies that pertain to food security in Nunatsiavut. Within this article, participants provided greater insight into current policies, policy gaps and provided suggestions for improving policies that pertain to food security. This article was unique as it provided a range of policy actor views, who are an underrepresented group in food security research.

Anderson (2019) states that for research to respond to the Truth and Reconciliation Commission of Canada's Calls to Action, it must address article 19 which calls for closing the gaps in Indigenous health outcomes; the research must use the United Nations Declaration on the Rights of Indigenous Peoples as its framework for relationships. The third article provides recommendations for improving food security and changing current policy approaches, with a focus on self-determination, to close the gap between Labrador Inuit in Nunatsiavut and the general Canadian population. Moreover, Anderson (2019) states that as gaps in Indigenous health outcomes are rooted in racism and colonization, Indigenous health research must be explicitly antiracist and anticolonial to contribute to closing these gaps. The critical theory approach to the

research within this thesis supports an anti-colonial approach as it described the impact of colonialism and described the resistance of Labrador Inuit against colonialism. Therefore, it is hoped that this thesis can contribute to actions to improve the current state of food security for Labrador Inuit and contribute to truth and reconciliation for Indigenous Peoples in Canada.

Findings from the three articles inform the seven discussion points of this results chapter which are discussed individually and summarized in Table 5.1. These discussion points were derived using the guidance outlined by Lewis, Graham, Boland and Stacey (2021) that offers a four-step approach to writing an integrated discussion. This chapter also includes a policy analysis tool and suggests areas for future research.

5.1.1 Improve the stability dimension of food security in policies

There are four dimensions of food security: access, availability, utilization, and stability (Food and Agricultural Organization 2008). In article two, the scoping review, each policy is mapped against one or more dimensions of food security. The stability dimension refers to the ability to be food secure in the present and future (Food and Agricultural Organization 2008). As a separate dimension, stability ensures that a population, household, and individual does not risk losing access to food as a consequence of sudden shocks or cyclical events (Food and Agricultural Organization 2008; Organization for Economic Cooperation and Development 2015). Stability can also have a cross-cutting function in policies primarily focused on one or more of the other three food security dimensions. The importance of the stability function was highlighted more by its absence rather than its presence. The stability dimension was only noted in two policies in the scoping review focused on governance. Improving the stability dimension can be considered from two perspectives—access to country foods in the present and future and the adequacy of policies to provide sufficient resources in a time of shock.

The current hunting ban on the George River caribou herd suggests an absence of the stability dimension. Labrador Inuit do not have access to caribou currently and there is no certainty of accessing caribou in the future. In article three, participants stated this absence as one of the greatest factors influencing food security within Nunatsiavut. This is supported by evidence that the absence of having caribou impacts all aspects of Inuit health (Cunsolo and Ellis 2018). There are policy impacts of not having a stable supply of country food as several other policies focus on providing access to alternative sources of country foods. These policies include the Hyperabundant

Moose Management Plan (Canada 2019), Labrador Nutritional and Artistic Allowance (Newfoundland and Labrador 2017), and the Climate Change and Health Adaptation Policy (Canada 2019) that supports community freezer programs in the respective communities that now supplies moose meat to Labrador Inuit in Nunatsiavut. However, as noted in article three, moose meat cannot fully replace the taste of caribou, and as stated by Cunsolo et al. (2020) alternative sources of country foods do not provide the cultural, psychosocial and spiritual aspects of caribou for Labrador Inuit. Therefore, the policies in place that support access to country foods via community freezers, while meeting a nutritional need, are not meeting the need for caribou meat experienced by Labrador Inuit.

Within the scoping review, the stability dimension was identified in two policies that pertain to Inuit governance and included a range of policy areas. For the Labrador Inuit Land Claims Area, the stability dimension includes governance of lands, including wildlife and fishing resources, which are the source of country foods for Labrador Inuit. The focus on wildlife and fish management is one of the unique aspects of stability and food security policies for Labrador Inuit. In discussions with policy actors in article three, the stability dimension appeared to be considered in the Nunatsiavut Government's policies on Wildlife (Nunatsiavut n.d.) and the Inuit domestic fishery (Nunatsiavut n.d.). However, this was not guided by scientific monitoring but rather by observation of current stocks by the Nunatsiavut Government. Moreover, also noted by policy actors in article three, scientific monitoring of wildlife by other federal government departments is usually only conducted on species at risk. Changes to the scientific monitoring of fish and wildlife could improve the stability dimension of these policies as issues with levels of fish and wildlife could be noted, and actions could have been taken before they became a species at risk or have disappeared.

Kenny et al., (2018a) state sustainable wildlife is required to reliably access country food over time. Sustainable wildlife is important on both an individual/household level and broader economic perspective in Nunatsiavut. On an individual level, access to country food through hunting, fishing and berry picking is used for individual and/or family consumption. Country foods are also the mainstay of businesses, such as the Torngat Fish Producers Co-operative Society, Limited. This business is an Inuit co-operative incorporated in 1980 by fishermen and plant workers from communities of northern coastal Labrador (Torngat Fisheries 2016). They operate processing facilities within Nunatsiavut that provide jobs within Nunatsiavut and, according to

participants in article three, supply char to the community freezer in each community. Therefore, monitoring is important to ensure the viability of livelihoods and community-based food security efforts. Given that economic development is a part of self-determination, ensuring economic pursuits are undertaken within the available resources and maintaining connections to the land and natural resources are key to sustainable self-determination (Corntassel 2008) and further highlights the importance of improving the stability dimension of food security.

While the stability is usually discussed in the context of food supply, the results from article three suggest that it can also be expanded to focus on economic access. In the food security dimensions, this is usually referred to as the access dimension, but the access dimension mainly focuses on current access. The second consideration for improving the stability dimension of policies that pertain to food insecurity was brought forward by the recent and ongoing response to the COVID-19 pandemic. The pandemic was a sudden shock, and an emergency food security response was required. The need for an intervention highlighted the inadequacy of current social policy responses policies and identified the issues faced by those who are working but still living on the edge of poverty.

An example of an inadequate social policy is the income support program (Newfoundland and Labrador n.d.). As noted in the description, the policy provides resources for *basic expenses* including food, clothing and shelter—not sufficient or adequate. The need for an intervention to support people who were either currently receiving social policy support, such as income support, or working but still requiring additional resources when they experience a shock, provides an opportunity to question the cross-cutting function of stability in social policies and in the adequacy of a living wage. In both article one and article three, the inadequacy of the income support system has been discussed since its inception and continues to require improvement. This then begs the question of what is required to improve the stability dimension for policies that pertain to food security?

The research results from the articles in this thesis provide two suggestions for improving the stability function of policies that pertain to the relevant dimensions of food security. These include improving monitoring of country foods (wildlife and fish) to ensure availability now and in the future and improving social policies such as income support and a living wage to provide adequate income to support the cost of living in northern Labrador to ensure people can survive a shock such as the COVID-19 pandemic. This last point is also cross cutting with other discussion

points, namely the evaluation mentioned in 5.1.3.3 and challenges current definitions and perceptions of stability as outlined by the Food and Agricultural Organization.

5.1.2 Include culture as a dimension of food security for Labrador Inuit

As noted in article one, the forced changes in culture through colonialism impacted all aspects of life for Labrador Inuit. The aim of residential schools when Newfoundland joined Canada was to assimilate Labrador Inuit within Canadian society. This impacted all aspects of their lives, including access to their lands and country foods. Food is an integral part of Labrador Inuit culture, and food security. Accessing country food is a part of the Inuit Right to Food (Inuit Tapiriit Kanatami and Inuit Circumpolar Council n.d.) and part of the Northern Food System (Northern Indigenous Economic Development Board 2019). As noted in the literature review, the focus on country food as a contributor to all aspects of health spans policy documents from areas of economic development, non-governmental organizations, the Government of Canada, and the Inuit Tapiriit Kanatami. Moreover, as noted in the annotated bibliography (see Appendix A), the nutritional benefits of country foods have been well researched, and the consistent recommendation is to maintain intake of country foods. In addition to the nutritional benefits, Labrador Inuit have a strong relationship with their lands and country food. Most recently, this relationship has been the focus of research on the mental and spiritual health impacts on Labrador Inuit (Cunsolo et al., 2020).

Therefore, to capture the entire cultural aspect of food and relationship to the land, culture should also be considered as a distinct dimension of food security for Labrador Inuit and included accordingly in strategies or frameworks. As discussed in article three, other researchers have suggested that culture should be a separate dimension of food security for Indigenous Peoples (Power 2007; Tarraf, Sanou and Giroux 2017). The results from this thesis suggest this dimension could include building upon the previously mentioned Labrador Inuit values, which include respect for traditional Inuit knowledge, teaching and healing practices, and that land and sea identify who they are and affect their sense of place of belonging and their health (Mayo 2009). However, Labrador Inuit will have to define this dimension for themselves as only Labrador Inuit can determine what culture means to them.

5.1.3 Implement a life course approach to policies that pertain to food security

This thesis was informed by the ecosocial theory of disease distribution (Krieger 2011) that includes a life course approach. As an explanatory model, a life course perspective explicitly recognizes the importance of time and timing in understanding causal links between exposures and outcomes within an individual life course, across generations, and in population-level disease trends (World Health Organization 2008, 18). These risk factors vary according to social position, local and national living context, and the social ties formed during the life course. There were three separate considerations for implementing a life course approach: explore approaches to nutrition education that recognize the impact of a lack of food security and the impact of past trauma, build on current short-term community-based and social policies that focus on specific populations, and improve longer-term structural policies.

5.1.3.1 Explore trauma-informed approaches to nutrition education

In article one, the historical narrative review provided an overview of historical generational factors that impact the food security of Labrador Inuit today. Colonization disrupted intergenerational knowledge—including country food skills and food skills in general. Policy actors also noted these actions impacted people's overall relationships to food. Also, as noted in the literature review, emerging life course frameworks on food insecurity and risk of chronic disease later in life suggest that one exposure to food insecurity is stressful enough to have a lasting impact on a person's physical health.

In article two, the scoping review, several policies focused on healthy eating as a part of the policy or focused solely on nutrition education. Within nutrition education, the focus is often on healthy eating and disease prevention as in the Aboriginal Diabetes Initiative (Canada 2021) or promoting healthy outcomes as in the case of the Canada Prenatal Nutrition program (Canada 2021). The current suggested approach to healthy eating does not consider the relationship with food or impact of stress on eating patterns. While one participant indicated this is slowly changing, other participants noted that an increased focus on food skills is required due to the impact of residential schools.

Due to the intergenerational impact of residential schools and the stress associated with food insecurity, one suggestion is to implement a trauma-informed approach to nutrition education. A trauma-informed approach to nutrition education and counselling recognizes how stress and

adversity affects human health and behaviours, avoids shaming stigma and blame and promotes resilience (Leah's Pantry 2021). There are several models for trauma-informed training. One participant mentioned the Ellen Satter Model of Eating Competence (Satter 2007). Based on article one and three results, one recommendation is to explore trauma-informed models for nutrition education that are suitable to or can be adapted to the Labrador Inuit context and can be implemented within Nunatsiavut as part of nutrition education.

As an approach and a policy response to reducing health inequalities, the life course approach calls for policies that act at several levels at once and are rooted in social contexts. This approach targets social circumstances and provides support during vulnerable periods such as transitions and shocks throughout life (short-term immediate support and preventive policies) and long-term policies that foster human capital.

5.1.3.2 Continue with life stage policies

The scoping review results in article 2 showed that a few policies focus on life stages and certain segments of the population. The policies focused on life stages included the Canada Prenatal Nutrition Program for mothers in the pre- and post-natal period (Canada 2021), the Mother Baby Nutrition Supplement (Newfoundland and Labrador 2019) that is provided in the first year of life for a child, Aboriginal Head Start in Urban and Northern Communities (Canada 2017) for the early childhood time frame, the Newfoundland and Labrador Child Benefit supplement (Newfoundland and Labrador 2019), and the Canada Child Benefit (Canada 2019) that can be accessed by families with children until the age of 18 years. The Newfoundland and Labrador Seniors Benefit (Newfoundland and Labrador 2019) and Guaranteed Seniors Income Benefit (Canada 2018) were available to senior citizens.

In article three, the focus on gender was a specific question. Some participants stated that at times gender was not considered in some policies as it was not considered relevant. Other participants stated that gender was considered but participants could not define how gender was considered for policy development more than stating that more women are food insecure. Therefore, while there was an attempt to discuss gender considerations in policy design and implementation, the results of article three did not fully describe a gender-based analysis; this is an area for further consideration and discussion.

While short term and focused policies are important, they have limited reach and only focus on immediate and preventative policies. For example, in 2016, there were 25 live births in the five communities within Nunatsiavut (Newfoundland and Labrador 2021). Therefore, while the intersection of policies for the prenatal and postnatal period provide supports during a critical time period, the reach is limited to this population. This only includes one aspect of the life course approach that suggests providing policy interventions at critical periods. To fully implement a life course approach, improvements are required to the long-term structural policies that intersect with the shorter-term targeted life stage policies to fully address factors that impact all the food security dimensions.

5.1.3.3 Improve structural policies

Through discussions with policy actors, areas of policy improvement and policy gaps identified consisted of longer-term structural policies that foster human capital. Policy improvements were recommended in the Income Support policy and Nutrition North Canada program. Although no specific policies were identified regarding transportation, it was noted as an area of improvement and a policy gap. In this thesis, these policies were identified as long-term structural policies that can improve food security.

Both policy documents and academic literature have identified the need to improve the Nutrition North Canada program. In fact, one study (Galloway 2017) stated that the Nutrition North Canada program could not meet its intended goal as the model on which the program is built needs to be improved and noted the inequities that existed within the Nutrition North Canada program. The participants in article three could not provide specific suggestions for improving Nutrition North Canada. Instead, there were broad suggestions such as improving transparency, more participation from Nunatsiavut in the program advisory board, and improving the model on which it is based. One participant in article three stated when they had a Good Food Box program the food was always cheaper even though it was still transported into the community and came from the same retailer. Moreover, the issues noted by participants such as higher food costs and poor-quality show that the program is not effective and negatively impacts food security within Nunatsiavut.

Despite the noted issues with this program in evaluation reports and in the broader academic literature, the Nutrition North Canada program continues to be considered one of the

main federal government policies to improve food security among Indigenous peoples in Canada. In the Canada 2021 Budget, the federal government announced Specifically, \$163 million over three years to support northern communities in Canada including Inuit communities (Canada 2021). Given the focus on this policy, it is imperative that it is improved to ensure it meets the needs of people living in northern communities. This policy requires continued research to monitor implementation and continued advocacy for policy change and improvement. This need is also stated in the Inuit Tapiriit Kanatami Food Security Strategy (Inuit Tapiriit Kanatami 2021).

Finally, the income support program is another structural policy that needs improvement. As income support focuses on income, the research on this topic has primarily focused on food insecurity. Indeed, studies have shown that investments such as improving income support, or the Canada Child Benefit, have improved food insecurity for specific populations. However, it is not known if the current investments such as the Canada Child Benefit are actually improving food insecurity for Labrador Inuit in Nunatsiavut at this time. There is evidence from the Province of Newfoundland and Labrador that changes in social policy decreased food insecurity among income support recipients in Newfoundland at one point. This evidence shows that changes to structural social policies within the province can impact food insecurity (Loopstra, Dachner, and Tarasuk 2015). The question remains as to how to change current social policies such as income support to improve food insecurity of Labrador Inuit.

Consistently, participants recommended improving income support benefits to match the cost of living in northern Labrador. However, recent policy documents from Inuit Tapiriit Kanatami and others have suggested that a Guaranteed Basic Income is a more suitable option (Inuit Tapiriit Kanatami and Pauktuutit Inuit Women of Canada 2021). The definition of a Guaranteed Basic Income according to the Basic Income in Canada Network is: “A Basic Income Guarantee ensures that everyone has an income sufficient to meet basic needs and live with dignity, regardless of work status” (Basic Income Network n.d., para 1). Implementing a Guaranteed Basic Income requires significant provincial policy change at a federal and consequently provincial level. There are several networks in Canada advocating for this change and Indigenous Peoples in Canada have suggested this approach as part of the framework to address violence against women. The issue of improving income support versus a Guaranteed Basic Income highlights the importance of legislation change to implement a new policy versus improving an existing policy.

Thus far the two structural policies noted have inherent issues with their model. The policy analysis not only brings forward the issues with the policy; but also, the consideration of the amount of advocacy to change legislation or incur major policy changes versus incremental change. It is partially for these reasons that the thesis results suggest that food security is also a political determinant of Inuit health, as noted in section 5.1.7.

Transportation has been a long-standing issue within Nunatsiavut. Regulating freight prices was a policy suggestion to improve transportation costs. Other participants suggested infrastructure issues have been ongoing issue since the airport and runways were implemented, prompting one participant to state that nothing has changed in 30 years. Infrastructure issues range from the airstrips themselves, which impact the type of planes that can fly into communities, to having limited storage facilities at each airport to store food before the planes leave Happy Valley-Goose Bay, Labrador and after they land in the respective communities within Nunatsiavut. The policy suggestions for infrastructure included improving the air strips and increasing storage facilities. However, fully improving transportation implicates many policies ranging from infrastructure regulations to pricing policies. These policies impact one another, i.e., the length of the runway impacts the type of plane, which in turn impacts the amount of fuel and the amount of cargo that can be carried. However, the policies supporting transportation are considered a structural determinant as they impact all aspects of food transport and the cost of living. While the results from article three provided preliminary suggestions, these suggestions and policies around transportation require a more in-depth analysis.

Perhaps, transportation is an example of the complexity of policy analysis due to the range of policies and levels government and private industry. For example, the air strips are located in Nunatsiavut but under the mandate of the province of Newfoundland and Labrador, the regulations regarding times for flying are the responsibility of the Government of Canada and the planes and the fuel, which influence costs, are both owned by private industry. It is also another example of why it is important to consider policy coherence and jurisdictional issues when developing or reviewing policies that pertain to one issue. Currently, as noted in article three, the Nunatsiavut Government is advocating for improved air strips in Nunatsiavut and are caught between federal and provincial disagreements on responsibility for the air strips. Also, the Inuit Tapiriit Kanatami on a national level continues to bring awareness of infrastructure issues within Inuit Nunangat and advocate for change.

In article three, participants noted the importance of the community-based programs to support food security efforts within Nunatsiavut. Participants in article three repeatedly stated they felt staff in communities were doing good work, however, they consistently stated that community-based programs were impacted by the structural policies. This places an undue burden on community-based staff. Bastian and Coveney (2013) note that when the only focus is on a community-based approach, it places responsibility on the community to create their own solutions and subconsciously diverts the responsibility and accountability away from governments. Therefore, to improve food security in Nunatsiavut, the structural or long-term policies that support health and food security within Nunatsiavut need to be improved. These policy improvements—whether it is a change in policy or improvement to an existing policy—will create a foundation to support community-based efforts and require action from all levels of government; one cannot be implemented in the absence of another.

5.1.4 Improve evaluation of policies that pertain to food security

In article two, policy evaluation was noted as an area of further investigation. In article three, the issue of policy coherence, or how one policy impacted another, was noted and also requires further investigation. This type of analysis was not within scope of article three and requires a separate focus. The scoping review results of article two showed that 56% of policies had an evaluation plan, yet only four policies had completed an evaluation to direct future action. Policy evaluation is important to assess whether a policy is impacting the identified dimension of food security. The tension noted between the results of the scoping review and participant's responses exemplify this importance. For example, accessibility is identified as the most frequent food security dimension addressed in the identified policies in the scoping review, yet access to food was also identified as an issue in discussions with policy actors in article three.

Evaluating policy coherence provides opportunities to understand whether policies reinforce one another, thereby improving policy effectiveness or negatively impacts each other decreasing effectiveness. Policy coherence needs to be assessed at all stages of the policy cycle, including development, implementation, and outcomes. In this thesis, policy coherence seemed to be present when analyzing descriptions of various policies, yet it was identified as an issue in discussions of policy implementation with policy actors in article three.

One example is the Nutrition North Canada program, a subsidy program with a goal of bringing healthy food to isolated northern communities. This description indicates policy coherence with the Nutrition North Canada retail and community-based nutrition education, which supports culturally appropriate retail and community-based nutrition education in all eligible isolated northern communities. However, in article three in discussions regarding Nutrition North Canada program implementation, its ineffectiveness resulting in the high cost of foods high and poor food quality, hindered retail and community-based nutrition education. Participants noted it was difficult to provide nutrition education that encouraged consumption of foods that were not accessible due to price or quality. This exemplifies policy incoherence in implementation.

As assessing policy coherence was beyond the scope of the articles in this thesis, policy coherence is a further area of research as a more structured approach should be undertaken to assess policy coherence of the policies that pertain to food security. However, it is difficult to complete an analysis of policy coherence if there is no evaluation of existing policies. Therefore, three areas of improvement for policy evaluation include completing an evaluation of existing policies, including impact evaluation indicators, and including policy coherence as part of the evaluation. Moreover, the focus on evaluation brings forth a consideration for a food security in all policies approach.

5.1.5 Implement a food security in all policies approach

The World Health Organization states that “a health in all policies approach is an approach to public policies across sectors that systematically takes into account the health implications of decisions, seeks synergies, and avoids harmful health impacts in order to improve population health and health equity” (World Health Organization 2008). The London Centre for Food Policy has developed a Food in All Policies for food systems and define food policy coherence as “the alignment of policies that affect the food system with the aim of achieving health, environmental, social and economic goals, to ensure that policies designed to improve one food system outcome do not undermine others” (Parsons and Hawkes 2019, para 4). To the best of my knowledge there is no formal definition of food security in all policies, yet it was brought forward as a recommendation from policy actors in article three.

The scoping review results in article two showed that many policies that pertain to food security are outside of health. Only four policies focused on health and three policies focused

specifically on food security. The remainder of policies focused on resource management (seven policies), social policies (seven policies), governance (two policies), and climate change (two policies). This is a particular challenge when policy actors, such as those in article three who work in the area of income support, do not consider their policy as pertaining to food security. Both the World Health Organization (2008) and Perez-Escamilla (2017) suggest improving intersectoral action is important for improving food security and health equity. Intersectoral action is defined as the actions that affect health outcomes that are undertaken outside of the health sector (World Health Organization 2008). A proposed food security in all policies approach could be adapted from the health in all policies approach and require all sectors to consider food security implications and could support seeking policy coherence to improve food security. This adaptation builds upon the findings regarding policy coherence and brings in the aspects of intersectoral collaboration. However, there are inherent challenges with intersectoral collaboration that must be taken into consideration.

Tonelli, Tang and Forest (2020) state that Canada does not currently have a meaningful health in all policies program at the federal or at most provincial levels, despite the World Health Assembly resolution that was adopted in June 2015, that committed all member states to using a health in all policies approach to improve health and healthy equity. The authors cited two examples in Canada, including declining death and disability from traffic accidents (Canadian Council of Motor Transportation Administrators 2016) and a lower prevalence of smoking (Dobrescu, Bhandari, Sutherland, and Thy Dinh 2012). However, they suggest noncommunicable chronic diseases, mental health issues and health inequities experienced by Indigenous Peoples in Canada could be addressed by a health in all policies approach (Tonelli, Tang and Forest 2020).

Results from a systematic review completed by Ndumbe-Eyoh and Moffatt (2013) showed that the impact of intersectoral action on health equity is limited and had little to no effect on social determinants of health. Smith and Weinstock (2019) suggest one reason for this limited effectiveness may be due to potential conflicting aims and approaches to health equity existing between the health sector and other areas of social policy. Similar issues such as degree of complexity, coherence and collaboration, conflicts of roles and allocation of resources have been noted in food security governance literature (Candall 2014).

Another consideration is that the World Health Organization (2008) suggests that effective governance mechanisms are required for intersectoral collaboration and these mechanisms must

include those impacted by the issue. These mechanisms are of particular importance for Indigenous Peoples in Canada who are undertaking the process for self-governance and aim to move from inclusion to self-determination.

5.1.6 Improve food security governance

The Food and Agricultural Organization of the United Nations states that food security governance relates to the formal and informal rules and processes through which interests are articulated and decisions relevant to food security in a country are made, implemented or enforced on behalf of members of society (Food and Agricultural Organization 2011). Perez-Escamilla (2017) states that food security governance is critical to improve food security. From a health equity lens, the World Health Organization states that promoting health equity requires the participation of civil society and the empowerment of affected communities to actively shape their own health; the United Nations Declaration on the Rights of Indigenous Peoples provides specific direction on Indigenous self-determination. Moreover, Nunatsiavut is an Inuit government with its own governance structures. Therefore, while governance of food security is important from an equity lens, it extends beyond involving people who are affected, as suggested by the World Health Organization, to ensuring Indigenous Peoples are determining the governance of food security to realize their rights.

One of the policies for governance identified in article two was the Labrador Inuit Land Claims Agreement. Self-governance is based on various arrangements that take many forms based on the different historical, cultural, political and economic circumstances of the Indigenous governments, regions, and communities involved (Canada 2020). The Labrador Inuit Land Claims Agreement outlines the rights of Labrador Inuit to their lands and to deliver their own health services. It also outlines how they work with other governments, namely, the federal and provincial governments. This impacts who develops and implements policies that pertain to food security for Labrador Inuit in Nunatsiavut.

In article three, the importance of governance structures and collaboration was noted as an area of improvement. Within this research project, the scoping review results identified a federal mechanism for a shared discussion on food security, namely the Inuit-Crown Permanent Bilateral Mechanism. Food security is a priority within this mechanism and directs the Inuit food security working group. However, I could not fully identify the same type of mechanism at a provincial

level. Rather, there is a Labrador secretariat dedicated to Labrador issues and includes all the Indigenous groups in Labrador (Newfoundland and Labrador n.d.). The 2020–2023 plan states: “The Secretariat collaborates with provincial government departments/entities, federal, territorial and municipal governments, industry organizations and social enterprises to advance social and economic development in Labrador. The Labrador Affairs Secretariat works with entities that provide frontline delivery of important supports such as housing, food security, health and transportation to address issues of social and economic relevance.” (Newfoundland and Labrador 2020, 5). The report focuses on the mandate to represent Labrador and not Labrador Inuit and the language suggests responding to issues and not proactively supporting or managing issues.

One of the issues that impacts food security governance is the deciphering who is responsible for developing and implementing policies. Within the scoping review, the Government of Canada developed 60% of the identified policies and implemented 44% of the identified policies. The Nunatsiavut Government only developed 12% of the identified policies and yet was responsible for implementing 48% of identified policies, mainly due to their role in community-based programming. Broadly speaking, the scope of policies varied by level of government according to their scope: 15 policies (60%) were Government of Canada (federal) policies primarily focused on community-based interventions, regulations and governance; seven policies (29%) were Government of Newfoundland and Labrador (provincial) policies that primarily focused on social policies and regulations; and three (12%) were Nunatsiavut Government (Inuit) policies that focused on governance and resource management.

Moreover, as noted in the scoping review, differing levels of governments were responsible for developing and implementing *the same policy*. For example, within the federal government policies, seven out of 15 federal policies were developed and implemented by another government. One federal policy, the Innovation Strategy, was implemented via a non-governmental organization, Food First Newfoundland and Labrador. Another policy was developed by the Government of Canada and implemented by private retailers. Also, six of the seven provincial policies were developed by the provincial government and implemented by a federal government department.

The range of policies developed and implemented by various governments raises the importance of the need identified by the policy actors to have mechanisms for collaboration and engagement. It also brings forward considerations for self-determination as outlined in the United

Nations Declaration on Indigenous Peoples. In line with article three of the United Nations Declaration on Indigenous Peoples, when Nunatsiavut is not leading policy development, mechanisms need to exist to ensure Labrador Inuit can provide input into decisions that affect them.

To explore governance and the policy actor network, participants in the key informant interviews were asked several questions about who they collaborated with and the degree of connection. A key learning was that the method did not match the intent. This type of article requires more of a survey methodology and network analysis to analyze the full scope of policy actors. The modest network identified through the key informant interviews showed that on a program level, Nunatsiavut representatives for various health programs engaged with their counterparts at regional or federal program levels. At times, this was completed through formal mechanisms and other times, it was more informal. It also depended on the scope of services. Finally, within Nunatsiavut, there seemed to be community level committees for food security, but not regional level committees. This is an area for improvement within Nunatsiavut to support intersectoral collaboration within Nunatsiavut and improve regional governance of food security. In part, this could be due to the lack of capacity in Nunatsiavut. While there has been a recent increase in human resource capacity, the necessary focus on COVID-19 emergency measure implementation has hindered longer term food security planning efforts and improvement in coordination or governance.

5.1.7 Consider food security as a political determinant of health for Labrador Inuit

In article three, one participant discussed the need to keep food security on political agendas as this influenced funding opportunities and collaboration with others to advance work in food security. In the ecosocial theory of disease distribution, Krieger (2011) states the understanding of the societal distributions of health cannot be divorced from considerations of political economy and political ecology, and accordingly, it is part of the model. Dawes defines the political determinants of health as the systematic process of structuring relationships, distributing resources, and administering power, operating simultaneously in ways that mutually reinforce or influence one another to shape opportunities that either advance health equity or exacerbate health inequities (Dawes 2020). Many of the same issues such as structures, resources, and power and governance are brought forth in this results section.

Developing and implementing policies requires more than evidence, it also requires political will and a person or organization to bring forward the agenda. Within this thesis, the political science theory, the Multiple Streams Framework informed the questions about roles. None of the participants identified themselves as someone who advocates for policy or was a policy entrepreneur. Participants identified an organization, Inuit Tapiriit Kanatami as setting policy direction and identifying food security as a priority for Inuit in Canada. This was noted in the Multiple Streams Framework as the political environment is a distinct stream. Currently, the newly developed mechanism of the Inuit Crown Partnership committee has the potential to influence the political environment, which in turn can influence policy direction by the federal government. However, the policy development process is often subject to confidential processes that determine resource allocation and scope of policy (Milne 2018, Government of Newfoundland and Labrador n.d.). This was reiterated by respondents who provided written responses to questions and stated decisions were subject to confidential cabinet processes. As noted in the scoping review, the Nunatsiavut Government must implement many of the policies and therefore, needs to be involved in the development process. This process is often political, as the internal development processes for the various governments preclude true influence by the Nunatsiavut Government who appear to be involved more in policy implementation rather than policy development discussions.

Food security and the factors that impact food security were brought to the forefront during the COVID-19 pandemic, and a key question from the COVID-19 experience is what will change after emergency interventions for food security have ceased? This question has been phrased as a potential political window that may exist to address some of the contributing factors to food security. However, these decisions will be made within a political context and that will determine if the window opens for change. This brings forward the question of who is advocating for policies that pertain to food security for Labrador Inuit.

Within this thesis, the political science theory, the Multiple Streams Framework, informed questions about roles. None of the participants identified themselves as someone who advocates for policy or was a policy entrepreneur. Participants identified an organization, Inuit Tapiriit Kanatami, as setting policy direction and food security as a priority. In retrospect, these questions about advocacy and connections are more suited to a questionnaire-based study. Therefore, another learning from this thesis is that to truly identify who is advocating for policies for Labrador Inuit

and who is influencing political processes, further studies need to be undertaken with appropriate methods. In retrospect, these questions about advocacy and connections are more suited to questionnaire type of article and should be considered in future research design. While food security is a distinct social determinant of Inuit Health, the results of this thesis suggest that food security is also a distinct political determinant of Inuit health and should be considered accordingly.

Table 5.1: Summary of findings and recommendations for action

Summary of findings	Suggested actions
Improve the stability function for food security	● Assess policies to determine if they include stability. ● Implement monitoring of all country foods. ● Improve social policies to ensure they provide sufficient amounts. Explore the feasibility of a Guaranteed Basic Income.
Include culture as a dimension of food security for Labrador Inuit	● Include culture as a separate component or dimension for regional food security definitions and/or strategies. ● Continue to support policies that have a cultural component.
Implement a life course approach to food security	● Implement a trauma-informed approach to nutrition education. ● Continue with current life stage policies and assess the need for further gender-based considerations in current policies. ● Further assess and advocate for changes to structural policies such as income support, Nutrition North Canada program. ● Consider regulation of freight prices. ● Continue to build on community-based approaches that are determined by Labrador Inuit.
Improve evaluation of policies that pertain to food security	● Evaluate existing policies using metrics that measure impact. ● Include policy coherence as part of policy development, implementation and evaluation.

	● Undertake further research on assessing policy coherence.
Implement a food security in all policies approach	● Increase intersectoral collaboration through improved collaborating mechanisms. ● Consider the impacts for food security in all policies.
Improve food security governance	● Develop structures at the provincial and regional level to support policy development and implementation.
Consider food security as a political determinant of health for Labrador Inuit	● Undertake actions to ensure food security stays on political agendas. ● Identify advocates or policy entrepreneurs for aspects of food security.

5.2 Translating research findings into practice: A policy analysis tool

The results and findings of this thesis provide suggestions for actions that may require a longer time frame and a great deal of coordination and collaboration. However, one consistent recommendation for further research is an in-depth analysis of the respective policies and how they pertain to food security. Moreover, policy analysis can be an activity that is undertaken by policy actors as part of their daily work.

To translate the findings from this thesis into a practical application, I translated the summary of findings into summarized these findings into a policy analysis tool. These questions are intended for use by policy actors to assess current or future policies that could pertain to food security in Nunatsiavut. The intent is to serve as a reflection tool before undertaking any future policy proposals in the future, or it could serve as a method of prioritizing actions on current policies that require improvement. As this tool is based on the thesis results, this tool will require further testing and validation to determine the applicability in a real-world setting.

Nunatsiavut Government Food Security Policy Analysis Tool
Section 1: Policy overview Name of policy: Policy description: Why is this policy required? What type of policy tool is being used? i.e., legislation, community programming etc. What dimension(s) of food security does this policy intend to address? _____ Access _____ Availability _____ Utilization _____ Stability Does this policy focus on a target audience? If yes, please state.
Section 2: Policy development process What government department is developing (or developed) the policy? What government department is implementing the policy? How is the Nunatsiavut Government involved in the policy development process?
Section 3: Food security in all policies approach Does this policy support food security priorities for the Nunatsiavut region? Does the policy align with existing policies to improve food security? Please explain why or why not? Has there been any consideration for unintended consequences of this policy? What are the: • Perceived advantages to this policy? • Perceived disadvantages to this policy? Is there an evaluation plan for the policy? • If yes, who will evaluate the policy? • If yes, what will the policy evaluate? • If yes, does the evaluation plan have a specific focus on food security? How will the Nunatsiavut Government be informed of evaluation results? Please describe.

Section 4: Policy Implementation

What resources are required to implement the proposed policy?

Are there any financial costs required to implement this policy?

Does the Nunatsiavut Government have adequate resources to lead or support policy implementation?

- If no, what additional resources are required? And how will they be obtained?

5.3 Thesis strengths and limitations

This thesis topic involves many policies developed and implemented by different policy actors. The strengths and limitations for the individual articles have been listed previously. However, there are additional strengths and limitations that are worth noting. The primary strength of this thesis is the collaborative approach undertaken with the Nunatsiavut Government Advisory Group for the research process. There were consistent meetings with the Nunatsiavut Government Advisory Group and constructive feedback was provided by advisory group members. The collaborative process strengthened the research outcomes as various members' perspectives guided approaches for engagement and revisions of the respective articles in this thesis. Another strength was through examining policies in the past and present, consistent issues that have endured throughout time were identified demonstrating the systemic factors impacting food security of Labrador Inuit. Finally, combining a literature search with key informant interviews provided the perspectives of those who are working in this area and increased the validity of the findings.

There were also a few limitations to the thesis. The first is the scoping review methodology for identifying policies. A scoping review can serve to both identify the literature on the topic and identify areas for further exploration. One of the limitations was that the scoping review results were obtained through a literature search using identified key words. This was considered a limitation as some policies did not have food security in the description but impacted food security. Through the key informant interviews, additional policies were identified such as the day care program in Nunatsiavut and the area of transportation that includes policies related to infrastructure, and flight regulations, among others. Therefore, future policy research could take a different approach by reviewing factors that pertain to food security and then identify the policies,

or it could include a combination of key informant interviews and scoping reviews as a mixed methods study. Another limitation was the scope of the studies. As this thesis focused on a range of policies instead of one policy, no in-depth analysis was completed on any policies. This may impact the validity of some of the conclusions in the results chapter. However, the results provide direction on where to start a more in-depth analysis as it pertains to food security of Labrador Inuit in Nunatsiavut.

5.4 Conclusion

The thesis asked the question: What is the role of policy in food security of Labrador Inuit in Nunatsiavut? Exploring this question required examining the past and present policy context. The key finding is that improving food security of Labrador Inuit in Nunatsiavut is not about improving one policy. It is the right mix of both short term and longer-term structural policies. It is also about filling the policy gaps. Also, the process of policy development is as important as the policy itself.

The thesis has illustrated inadequate policies have negatively impacted food security of Labrador Inuit over time. Colonization had the greatest impact on the lack of food security for Labrador Inuit as it changed their hunting and gathering practices, where they lived, and eventually impacted transmission of traditional skills. However, the unfair and unjust actions did not only occur in the past, but they are also present today in examples such social policies that do not provide adequate amounts of money to buy food, inadequate transportation infrastructure, and high costs of food, all which impact food security for Labrador Inuit in Nunatsiavut. Labrador Inuit are also facing new challenges such as loss of country foods and concerns about climate change. The renewed urgency to improve policy approaches was noted during the recent COVID-19 pandemic.

Improving food security of Labrador Inuit in Nunatsiavut is about improving health equity. That means improving policies and their development processes to ensure they are fair and just. While more work needs to be completed at all levels of government to attain this goal and improve food security for Labrador Inuit, there has been changes at the federal government level and by the Nunatsiavut Government. The recent legislation passed to implement the United Nations Declaration on the Rights of Indigenous Peoples can contribute to an improved federal government political environment to encourage action. Moreover, the Nunatsiavut Government has provided evidence of both their commitment to the issue and ability to lead the way to improve food security

for Labrador Inuit. It is this aspect that provides the greatest hope for a future where Labrador Inuit are food secure. The thesis results build on this hope and are intended to contribute to current and future actions of policy actors, researchers, and other stakeholders to improve food security, and overall health, of Labrador Inuit in Nunatsiavut.

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Zienczuk, Natalia and Grace M. Egeland. 2012. "Association Between Socioeconomic Status and Overweight and Obesity Among Inuit adults: International Polar Year Inuit Health Survey, 2007–2008." *International Journal of Circumpolar Health* 71 (7): 18419.
<https://doi.org/10.3402/ijch.v71i0.18419>

Zienczuk, Natalia, T Kue Young, Zhirong R Cao, and Grace M Egeland. 2012. "Dietary Correlates of an at-Risk BMI among Inuit Adults in the Canadian High Arctic: Cross-Sectional International Polar Year Inuit Health Survey, 2007–2008." *Nutrition Journal* 11 (73). <https://doi.org/10.1186/1475-2891-11-73>

Appendix A: Annotated bibliography of Labrador Inuit, food security and nutrition

The literature on aspects of food security in Nunatsiavut has evolved from observations on dietary intake to different factors impacting food security such as climate change. This annotated bibliography includes both research articles and policy documents that focused on Nunatsiavut as a region and/or Labrador Inuit participated the document development. It does not include articles focused on Indigenous Peoples or research from other Inuit areas in Canada that does not include Labrador Inuit.

Much of this literature in this annotated bibliography and was identified through various literature searches for the studies performed for the articles in this thesis. The annotations are descriptive annotations that describe the literature rather than evaluating what the author says or concludes. This approach was chosen as a few annotations are historical and it is impossible to critique an approach when knowledge of certain fields and methodologies were in their infancy and have since advanced. Also, policy document annotations do not have a methodology listed. The annotations are listed by topic and are in alphabetical order. The sources cited within each topic are also listed in alphabetical order for ease of reference.

Most of these annotations focus on documenting the changes in dietary intake and the issue of food security. There are also policy documents, mostly from the Inuit Tapiriit Kanatami, who provide policy recommendations and frame the issue of food security as an Inuit social determinant of health. This annotated bibliography results also shows that only a few research articles focus on policy interventions for food security in Nunatsiavut.

A1. Agriculture

Wilson, Lisa. 2015. *The Agricultural History Society of Newfoundland and Labrador: Annotated Bibliography and Research Notes*. Agricultural History Society of Newfoundland and Labrador.
https://collections.mun.ca/digital/collection/ich_nature/id/1315/.

In 2014, the Agricultural History Society of Newfoundland and Labrador documented early agricultural practices in Labrador. This document contains an annotated bibliography of selected references, arranged in chronological order from the earliest documents through to the latest available at the time of publication in 2015. The annotations summarize the garden's contents (i.e., types of vegetables) and the gardeners, and support people's perspectives. Specific to

Labrador Inuit are descriptions of the Moravian Missionaries' gardens and their contribution to Labrador Inuit diets in the early 1900s.

A2. Climate change

This section focuses on articles that describe the relationship between climate change and food security and describes community-based interventions focused on climate change and food security.

Allard, Michel, and Michael LeMay. *Nunavik and Nunatsiavut: From Science to Policy. An Integrated Regional Impact Study (IRIS) of Climate Change and Modernization*. Quebec City: Arctic Net Inc., 2012. <http://10.0.51.84/2.1.1041.7284>

This report summarizes the state of science on climate change and its relationship to food insecurity for two Inuit regions within Canada—Nunavik and Nunatsiavut. The authors identify four areas affected by climate change: human health, safety and security, vulnerability of infrastructure, and the impacts of resource exploitation. Recommendations to improve food insecurity are mainly within human health. They include access to a sustainable supply of country food through enhancing hunter support networks and community freezer programs; increase the availability of country foods circulating in communities via commercial sale and distribution; ensure healthy store-bought foods are available and affordable; encourage traditional and land skills knowledge transfer between generations; conserve caribou habitat, calving, and migration routes; establish a cross-boundary partnership and coordination entity for caribou. Finally, for arctic char, the report suggests assessing the sustainability of the char population and implementing community-based monitoring. This is a concise review of a complex topic with clear recommendations for action.

Ford, James D., Kenyon C. Bolton, Jamal Shirley, Tristan Pearce, Martin Trembley, and Michael Westlake. 2012. "Research on the Human Dimensions of Climate Change Nunavut, Nunavik, and Nunatsiavut: A Literature Review and Gap Analysis." *ARCTIC* 65 (3): 289–304. <https://doi.org/10.14430/arctic4217>

This literature review aims to identify and characterize an understanding of the human dimensions of climate change in three Inuit regions: Nunavut, Nunavik, and Nunatsiavut. The authors used a vulnerability framework to synthesize the literature. This framework focuses on five socioeconomic sectors including subsistence hunting and harvesting, health and well-being,

infrastructure and transportation, culture and education, and business and economy. Food insecurity was part of the health and well-being sector. The results show current and future vulnerabilities for each of the five sectors. For food security, the authors state that three components of food security (access, availability, and quality) are impacted by climate change due to the changes in country foods for Inuit. Emerging research is identifying how food systems can be strengthened due to current climate change and other stresses. Suggestions include investing in and enhancing harvester support programs, community freezers and food banks, youth hunting programs, and meat sharing initiatives. Finally, future research areas should include health risks due to climate change and the impact of changing food species availability that may impact future food sharing networks. The review ends with unanswered questions that can inform future research priorities.

Harper, Sherilee L., Victoria L. Edge, James Ford, Ashlee Cunsolo Willox, Michele Wood, and Scott A. McEwan. 2015. "Climate-sensitive Health Priorities in Nunatsiavut, Canada." *BMC Public Health* 15 (1). <https://doi.org/10.1186/s12889-015-1874-3>

This participatory mixed methods study identifies, characterizes, and ranks climate sensitive health priorities in Nunatsiavut, Canada. The methods include key informant interviews with Nunatsiavut Government Employees, three photo voice workshops in Nunatsiavut, and two community surveys in Rigolet, Labrador. The climate-sensitive health priorities identified are food security, water security, mental health and well-being, new hazards and safety concerns, and health services and delivery. The authors state that climate change negatively impacts food security for Labrador Inuit by the nutritional content of country foods, the environment's ability to support healthy populations of animals and vegetation, and the impact on delivery of market foods due to travel disruptions caused by weather. In addition, most participants associated food security with other factors such as income, mental health, education, changing cultural practices, and increasing cost of supplies (e.g., snowmobiles, boats). The authors conclude that climate change places more pressure on an already stressed food system.

McClymont Peace, Diane, and Erin Myers. 2012. "Community-based Participatory Process Climate Change and Health Adaptation Program for Northern First Nations and Inuit in Canada." *International Journal of Circumpolar Health* 71 (1): 18412. <https://doi.org/10.3402/ijch.v71i0.18412>

The Climate Change and Health Adaptation Program in Northern First Nations and Inuit Communities is a program developed by Health Canada. The program aims to support adaptation decision-making at the community, regional, national, and circumpolar levels for human health and the environment. In 2012, the program provided funding to 36 community projects across Canada's North, including Nunatsiavut. This article summarizes results, namely areas of research, number of projects focused on a specific area, and tools developed. The areas of research include food security, water quality, education awareness and promotion, traditional medicine, land erosion and land use, ice monitoring, and water safety. Food security was included in eleven projects and provided nine tools. Besides individual project results, another key learning is the strength of the community engagement process. However, challenges include short project length, providing timely funding, and working with standardized time frames for institutional ethics review processes.

A3. Community-based food security interventions

This section provides an overview of community-based interventions for food security conducted in Nunatsiavut.

Alton-MacKey, Mary and Kim Bowles. *The Birthing of Nutrition Education in Labrador: A Summary Report*. Goose Bay, Labrador: Labrador Institute of Northern Studies, Memorial University of Newfoundland, 1982.

This project sought to reinforce the importance of Inuit traditional diets and complement these foods with store-bought foods to residents of northern Labrador. The project focused on food and nutrition education, and trained community field workers in Innu and Inuit communities. Training included in-person sessions focused on food preparation methods and educational materials on healthy eating choices such as canning guides and video tapes in Inuktitut.

Flowers, Juliana, Susan Nochasak, and Kristie Jameson. *NiKigijavut Hopedalimii: Our Food in Hopedale*. Food Security Network of Newfoundland and Labrador, April 26, 2010.

The NiKigijavut Hopedalimii project aims to perform a community-led food security assessment in Hopedale to develop future community-based solutions for community food security issues. This summary report starts with defining community food security, describes the project partners, where Hopedale is located, along with community assets and priorities. It also lists a community

action plan with four goals: increased access to traditional foods, increased access to fresh produce, increased understanding and use of traditional knowledge, skills and language, and increased food education and awareness. Finally, the report lists the project evaluation plan with outcomes, key indicators, and methods for each goal. The appendices provide further detail on names for the project, asset mapping, and other topics covered in the report.

Hirsch, Rachel, Chris Furgal, Christina Hackett, Tom Sheldon, Trevor Bell, Dorothy Angnatok, Katie Winters, and Carla Pamak. 2017. "Growing Off, Growing Strong: A program to Enhance Individual Youth and Community Resilience in the Face of Change in Nain, Nunatsiavut." *Études/Inuit/Studies* 40 (1): 63–84.
<https://doi.org/10.7202/1040145ar>

This study aims to share experiences and question the assumptions that formed the basis of the activities to achieve the goals of the Growing Off, Growing Strong Program in Nain. This program has two goals: improve the mental health, social connections, and coping skills of a group of youth in Nain; enhance the intergenerational knowledge and skills transmission necessary to promote individual and, ultimately, community resilience. This study used an interpretive approach. The methods comprised 25 meetings held from January 2012 to March 2013, with program staff, steering committee members, community stakeholders, and the public to reflect on program implementation. The authors conclude that working with community youth as a starting point shows how a multifaceted approach to relationship and skill-building can help communities respond to change and adversity through individual and collective resilience.

Inuit Tapiriit Kanatami. "Inuit Food Insecurity Canada | The Nuluaq Project". Last modified 2021. <https://www.itk.ca/nuluaq-mapping-project/>
<https://www.itk.ca/nuluaq-mapping-project/inuit-food-insecurity-canada-background/>
<https://www.itk.ca/nuluaq-mapping-project/inuit-food-insecurity-canada-background/>

This webpage is available on the Inuit Tapiriit Kanatami website. It is an interactive Inuit Community-Based Food Initiatives Map and provides summaries of food insecurity projects within Inuit Nunangat, including Nunatsiavut. It provides a visual location and brief description of the projects listed to address food insecurity.

Ladouceur, Luc L., and Frederick Hill. *Results of the Survey on Food Quality in Six Isolated Communities in Labrador*, Indian and Northern Affairs Canada, March 2001.

The Food Mail Program was delivered by Indian and Northern Affairs Canada and funded by Canada Post to transport nutritious, perishable foods by air to isolated communities. The goal was to provide quality, affordable nutritious food to isolated northern communities. In February 2000, representatives of the Food Mail Program held a meeting with Labrador retailers. The purpose of the meeting was to identify issues and to provide training on how to handle perishable foods during warehousing and transportation. After this meeting, the Food Mail Program sent a survey to all residents and retailers in six Labrador communities; this report includes a summary of the key findings from the survey. The report results state that customers felt there was a lack of quality and variety of fresh and frozen perishable foods in Labrador, whereas retailers said they had enough variety 80% of the time. Customers provided reasons for not buying fruits and vegetables including costs were too high, they were not available, quality was poor, and there was lack of variety. Retailers stated there were no issues with products sold in their stores, but they cited issues with transportation, namely flight delays. This report presented the issues and divergent views between retailers and customers. The report stated there would be another follow-up survey in 2002.

Organ, Jennifer, Heather Castleden, Chris Furgal, Tom Sheldon, and Catherine Hart.
2014. "Contemporary Programs in Support of Traditional Ways: Inuit Perspectives
on Community Freezers as a Mechanism to Alleviate Pressures of Wild Food Access
in Nain, Nunatsiavut." *Health & Place* 30: 251–259. [https://doi.org/10.1016/
j.healthplace.2014.09.012](https://doi.org/10.1016/j.healthplace.2014.09.012)

This study evaluates a community freezer in Nain, Nunatsiavut that supports wild food (e.g., food harvested from the arctic environment such as char, seal, and caribou) access. Data collection methods included 17 semi-structured interviews and three focus groups with key personnel such as freezer managers and active harvesters, participant observation of approximately 50 days, and document analysis. The study results show that participants accept community freezers as a viable option to support food security. However, there are concerns related to sustainability, specifically food supply and ongoing management. Also, unintended effects occur, including dependency on the resource as a replacement for hunting, social exclusion for those who cannot get goods from the freezer, and tension between supporting the freezer and traditional Inuit practices. Future program administrators or managers must consider these factors when designing this initiative in other communities.

Wilson, Emily. 2016. "Exploring and Evaluating Personal, Cultural and Social Food Needs and the Role of a Community Freezer among Inuit in Hopedale, Nunatsiavut." Master's Thesis, Trent University, 2016. <http://digitalcollections.trentu.ca/objects/etd-346>

This thesis focuses on the perceptions of food needs and the role of a community freezer in Hopedale, Labrador. Data collection methods included qualitative interviews with residents of Hopedale to explore their perceptions and a community survey. There was no significant association between freezer use and perceived ability to meet food needs. Instead, other factors such as access to a hunter within the household and ability to receive foods from food sharing networks influenced an individual's ability to meet their cultural, personal, and social needs for food. It was concluded that Hopedale residents require more opportunities and actions to reduce barriers to harvesting and sharing wild foods.

A4. Country foods

Country foods are an important component of overall Inuit health. This section provides an overview of the importance of country foods to aspects of Inuit health when country foods are available and the impact on Inuit health when country foods are not available.

Boulanger-Lapointe, Noémie, José Gérin-Lajoie, Laura Siegwart Collier, Sarah Desrosiers, Carmen Spiech, Gregory H.R. Henry, Luise Hermanutz, Esther Lévesque, and Alain Cuerrier. 2019. "Berry Plants and Berry Picking in Inuit Nunangat: Traditions in a Changing Socio-Ecological Landscape." *Human Ecology* 47 (1): 81–93. <https://doi.org/10.1007/s10745-108-0044-5>

This qualitative research article summarizes the relationship between Inuit in Canada and berries, a country food. Research methods included 191 interviews collected from 2007 to 2011 in three Inuit land claim areas: Nunavik, Nunavut, and Nunatsiavut. Results showed that for Inuit, berries have medicinal uses, contribute to spending time on the land with family, sharing practices, and help maintain a spiritual relationship to the land. Respondents considered berry picking a calming activity and an opportunity to escape community stress. Therefore, berry picking is an important cultural practice that contributes to the spiritual, personal, and community well-being of Inuit. While important, factors threaten this practice, such as community development and natural wildlife, and an increased goose population. The authors suggest that future land use planning

needs to consider berry picking to ensure Inuit can continue taking part in this activity to improve overall health and well-being.

Calder, Ryan S.D., Sabri Bromage, and Elsie M. Sunderland. 2019. "Risk Tradeoffs Associated with Traditional Food Advisories for Labrador Inuit." *Environmental Research* 168: 496–506. <https://doi.org/10.1016/j.envres.2018.09.005>

Food advisories are a specific concern as they can negatively impact traditional foods consumption. This study aims to quantify the risks of consuming traditional foods with contaminants versus store-bought foods in three communities in Labrador located downstream from the Churchill River: Northwest River, Happy Valley-Goose Bay, and Rigolet. The study methods included a food frequency questionnaire administered to 1,145 individuals (approximately 40% of the Inuit population in the area) that measured traditional and store-bought intake, and associated Methylmercury. The authors quantified the magnitudes of neurodevelopmental, cardiovascular, and cancer risks associated with five dietary scenarios and compared the risks with projected future Methylmercury exposures in the diet. The study results suggest that replacing traditional foods with store-bought alternatives may lead to increases in cardiovascular and cancer risks among Lake Melville Inuit and carry a greater health risk than consumption of low-Methylmercury traditional foods. These results reinforce the potential benefits of dietary advice that promote nutrient-dense, low-Methylmercury traditional foods. The authors also state it is important to continue protecting traditional foods and encourage their consumption.

Cunsolo, Ashlee, David Borish, Sherilee L. Harper, Jamie Snook, Inez Shiwak, Michele Wood and the Herd Caribou Project Steering Committee. 2020. "You Can Never Replace the Caribou": Inuit Experiences of Ecological Grief from Caribou Declines." *American Imago* 77 (1): 31–59. <https://muse.jhu.edu/article/753060>

This qualitative research study illustrates the concept and impact of ecological grief due to caribou loss experienced by Labrador Inuit; the loss occurred because of a hunting ban in the region. Study methods were a Labrador-wide, multi-year, multi-media study that included 21 in-depth recorded audio conversations with Inuit in Rigolet focusing specifically on the Mealy Mountain Caribou Herd and 84 conversational interviews with Inuit (n=54 from Nunatsiavut) in Labrador. Results show Inuit experienced ecological grief in three ways: 1. The physical,

ecological decline due to the moratorium affected intertwined ways of Inuit life and place-based attachment, food security, and cultural continuity; 2. Disruption to knowledge systems related to caribou that affected the sense of self, cultural practices, and continuity; 3. Anticipatory grief related to potential lack of ongoing access to caribou and the impact on individual and community, social, cultural, and food practices related to caribou. This article shows that the loss of caribou impacts all aspects of life for Labrador Inuit.

Dennis, Romea. "Science, Conservation, and Indigenous Right: The Political Ecology of the George River Caribou Herd", Master in Environmental Studies dissertation, York University, July 31, 2018. <http://hdl.handle.net/10315/36017>

This thesis aims to explore scientific, indigenous, and government perspectives on the cause of the George River caribou herd decline. Using a political ecology lens, the author identified a broad range of factors that contribute to the decline. These factors include industrial development, roads, habitat loss, mines, climate change factors, arctic greening, forage decline, predation, and hunting. The author concludes that while it is difficult to determine if the caribou herd will ever recover, activities such as the Ungava Peninsula Caribou Aboriginal Round Table (UPCART) that signal agreement among Indigenous groups impacted by the ban are a positive step forward to ensure decision-making is bottom up, and co-management is the solution for moving forward.

Dombrowski, Kirk, Emily Channell, Bilal Khan, Joshua Moses, and Evan Misshula. 2013. "Out on the Land: Income, Subsistence Activities, and Food Sharing Networks in Nain, Labrador." *Journal of Anthropology* 2013: 1–11. <https://doi.org/10.1155/2013/185048>.

The authors conducted a social network research study in Nain, Labrador. From January and June 2010, 330 interviews were conducted with adult residents of Nain. The interviews consisted of questions about demographic information, access to subsistence resources such as cabins and snowmobiles, and who participants would turn to if they needed help. Results showed that participants only have occasional access to three of the most important methods (e.g., cabin, skidoo, boat) to get country food outside of the community. However, the entire network was well-connected. The study results show that individuals with financial means are more likely to play a role in subsistence food sharing, irrespective of access to commonly used methods for hunting and fishing.

Kenny, Tiff-Annie, Myriam Fillion, Sarah Simpkin, Sonia D. Wesche, and Hing Man Chan. 2018. "Caribou (*Rangifer tarandus*) and Inuit Nutrition Security in Canada." *Ecohealth* 15 (3): 590–607. <https://doi.org/10.1007/s10393-018-1348-z>

Caribou, a country food, has been a mainstay of Inuit diets. This study sought to characterize the contribution of caribou to Inuit nutrition across Northern Canada and to evaluate the population and management status of caribou herds/populations harvested by Inuit. Research methods included survey data from the 2007–2008 Inuit Health Survey on diet information for Inuit adults (n=2097) that lived in 36 communities spanning three Inuit regions (Inuvialuit Settlement Region, Nunavut, Nunatsiavut) and a document analysis. Study results showed caribou was the overall top source of protein for participants and provided significant sources of iron, zinc, copper, riboflavin and vitamin b12, and protein. However, in Nunatsiavut caribou contributed less than 5% of total energy and was the second most important source of protein at the time of data collection. At the time of this study, the noted nutritional benefit was impossible to achieve for some due to harvest quotas or bans in place in six northern caribou herds such as the George River caribou herd ban in Nunatsiavut. The authors conclude that given the nutrient density of caribou, sustainability of wildlife is crucial to maintain Inuit food and nutrition security in the interim and for the future.

Natcher, David, Shea Shirley, Thierry Rodon, and Chris Southcott. 2016. "Constraints To Wildlife Harvesting among Aboriginal communities in Alaska and Canada." *Food Security* 8 (6): 1153–1167. <https://doi.org/10.1007/s12571-016-0619-1>

Recognizing that wildlife is an important part of food security and health for Indigenous Peoples in Canada and Alaska, this study aims to identify barriers to procuring wildlife. From 2007 to 2013, data were analyzed from four wildlife harvest studies carried out by the Nunatsiavut Government in Labrador, the Council of Athabaskan Tribal government in Alaska, Makivik Corporation in Nunavik, and the Little Cree Nation in Alberta. Based on 2,463 completed household surveys, the authors identified 1,119 barriers from which seven themes emerged: 1) Financial costs of harvesting; 2) Time limitations associated with attendance in school/training; 3) Time limitations associated with employment; 4) Physical inability; 5) Childcare; 6) Lack of harvesting interest or knowledge; and 7) Limited game availability during the survey period. These factors affect wildlife access and food security. The findings can contribute to a greater

understanding of factors impacting Aboriginal food security in the arctic and sub-arctic regions of North America and feasible policies to address food insecurity.

Pufall, Erica L., Andria Q. Jones, Scott A. McEwen, Charlene Lyall, Andrew S. Peregrine, and Victoria L. Edge. 2011. "Perception of the Importance of Traditional Country Foods to the Physical, Mental, and Spiritual Health of Labrador Inuit." *ARCTIC* 64 (2): 242–250. <https://doi.org/10.14430/arctic4103>

This community-based study aims to explore the perceptions of country food by Labrador Inuit. Research methods included two focus groups of seven people and five key informant interviews with adult Inuit residents of Nain. Study results show country foods remain integral to Labrador Inuit as they connect people to their community, the land, and the past. The authors coded the perceptions of country foods into four major themes: physical aspects, health, identity, and connections. Participants viewed country foods as important to physical health because of their perceived nutritional value. They also stated country foods are important for mental and spiritual health because of being out on the land, a sense of pride, and an element of their identity. However, intermixed with the identified benefits are food safety concerns due to community pollution and what animals might pick up during their migration patterns, lack of food sharing, and disrespect for country foods. The two latter concerns signaled both a lack of respect for traditional values and a changed attitude among Inuit youth, in addition to the broader impact of climate change on country food.

A5. Inuit dietary intake

This section provides an overview of studies that have observed or analyzed the dietary intake of Labrador Inuit. A few of the studies also provide an overview of factors impacting dietary intake.

Akande, Victor O., Anna M. Hendriks, Robert A. C Ruiter, and Stef P. J. Kremers. 2015. "Determinants of Dietary Behavior and Physical Activity among Canadian Inuit: A Systematic Review." *International Journal of Behavioral Nutrition and Physical Activity* 12 (1). <https://doi.org/10.1186/s12966-015-0252-y>

This systematic review evaluates factors influencing dietary and physical activity behaviours among Canadian Inuit. The authors anticipate the study results can guide health promotion interventions and provide recommendations for future studies. A literature search conducted from

May to July 2014 identified 45 articles for analysis. Nunatsiavut was included in five studies focusing on diet and food security measurement. c. However, a higher socioeconomic status, increased knowledge, and self-efficacy contribute to an increased intent to make healthier food choices and participate in physical activity. The authors could not determine the impact of the intervention versus the changes experienced by Inuit and state more research is required in this area.

Alton-Mackey, Mary, G. *Country Food Use in Selected Labrador Coastal Communities, Comparative Report, June 1980–July 1981*. St. John's, Newfoundland: Extension Service and Faculty of Medicine, Memorial University of Newfoundland, 1984.

This report is based on the Labrador Food Study. The study's objectives were to describe the food supply of country and imported food available, and nutrients available by season, in five coastal communities in Labrador. Three of these communities, Nain, Makkovik, and Rigolet are in Nunatsiavut. Alton-Mackey's results quantified the intake of traditional foods by species. Overall, traditional foods remain an important part of the Labrador Inuit diet, namely the consumption of cod (except for Rigolet) and caribou. The study results show the high cost of food and low levels of total income as wages (32%) for the communities studied; these factors affected participants' ability to consume a healthy diet.

Alton-Mackey, Mary G. 1988. "The Impact of Imported Foods on the Traditional Inuit Diet." *Arctic Medical Research* 47 (1): 128–133. <https://arctichealth.org/media/pubs/1531/87-02-17.pdf>

This study summarizes the dietary intake of Inuit in Labrador from 1980 to 1981. Research methods included both unstructured and structured qualitative interviews on lifestyle, food procurement, food beliefs perceptions, and classifications. Interviews were conducted with 30 female heads of households who were mainly responsible for food preparation in the home. They were interviewed over an 11-month period in 1980–1981. The households were in Nain but represented families originated from Hebron, Nutak, and Nain. Participants recorded their wild food consumption and food patterns were obtained through interviews and store records. Results show Inuit still relied on country food, with fish making the greatest contribution to dietary intake, followed by caribou and seal. When market foods replaced country foods, the nutrition density of the diet decreased. The author comments on food beliefs and states Inuit consider all foods good, which influences their consumption of store foods, including a higher intake of sugary beverages.

She also states Labrador Inuit require creative education interventions to support introducing new foods into the diet.

Alton-Mackey, Mary G. and Robin D. Moore-Orr. 1988. "The Seasonal Nutrient Density of Country Food Harvested in Makkovik, Labrador." *ARCTIC* 41(2):105–108.
<https://doi.org/10.14430/arctic1701>

This study was conducted from July 1980 to June 1981 in Makkovik, Labrador. The study covers a one-year food cycle and documents the amounts of country food and market food consumed in that year. The authors describe the food consumption of traditional food by season, i.e., caribou in early spring, geese, ducks, and cod in early fall, and seal hunting, grouse, rock cod, salmon, cod, and char in the summer. They also provide an overview of key nutrients the various foods provide as this impacts the nutrient intake. Examples include a higher calcium intake in the summer and higher thiamine in the fall. The authors conclude that the diets of Makkovik residents change with the seasons and so does the nutrient intake. This should be considered when planning nutrition interventions for this population.

Aykroyd, William R. 1930. "Beriberi and other Food Deficiency Diseases in Newfoundland and Labrador." *Journal of Hygiene* 30 (3): 357–386.

This study is a case review that provides an overview of the incidence of nutritional deficiencies and an observation of contributing factors in the Newfoundland and Labrador populations. The author provides a case review of patients experiencing other diseases, such as scurvy and rickets, and night blindness. He states that night blindness is curable by consuming foods rich in vitamin A and usually occurs in men with a deficient diet for less than one month. The article mainly focuses on the symptoms and causes of beriberi and observed differences between the Newfoundland population, which has more beriberi than Labrador Inuit; he attributes the difference in incidence to diet. While Labrador Inuit have less access to vegetables and experience greater poverty, they have access to wild foods, in particular game meat, and bird livers and hearts. He also notes beriberi developed when there was a poor hunting season, or when people could not hunt. Besides being one of the first observational studies, it was also one of the first studies to link nutrition deficiencies with poverty, as the author states that beriberi occurs in the most ill-nourished and poorest of the Newfoundland population. Therefore, while there is a dietary link,

the author concludes that beriberi is a disease of poverty and prevention is an economic rather than a medical issue.

Cuthbertson, D.P. *Report on Nutrition in Newfoundland*. London: His Majesty's Stationery Office, Dominions No.4, 1947.

The report provides a comprehensive overview of nutrition issues, namely deficiencies within Newfoundland, and provides suggestions for improving the nutritional health of the Newfoundland population. At the end of the report, there is a section on Labrador based on an interview with Rev. Peacock, who was working in Labrador with the Moravian Mission. He summarizes that their dietary intake is based on seasonal availability. However, broadly speaking, the diet was mainly country foods (caribou, seal, and fish) and low in vegetables. Rev. Peacock also remarks that Labrador Inuit did not like brown flour. He notes there were few nutrition deficiencies, which he attributes to the intake of country foods and encourages the continued consumption of these foods to ensure the health of Labrador Inuit.

Egeland, Grace M., Louise Johnson-Down, Zhirong R. Cao, Nelofar Sheikh, and Hope Weiler. 2011. "Food Insecurity and Nutrition Transition Combine to Affect Nutrient Intakes in Canadian Arctic Communities." *The Journal of Nutrition* 141 (9): 1746–1753. doi:10.3945/jn.111.139006.

This study measures the nutritional status, nutrient intake of traditional food, and food security status of Inuit 18 years and older in 36 arctic communities in the Inuvialuit Settlement Region, Nunavut, and Nunatsiavut in 2007–2008. Methods included a cross-sectional survey including measurements of food security status, dietary intake, and a fasting blood sample. The mean age of study participants was $41 \text{ y} \pm 14.7$ and 62% were female. Results showed that food insecurity was associated with higher red blood cell trans-Fatty Acids, whereas trans-fat consumption was associated with higher geometric mean serum 25 (OH) D and higher (n-3) fatty acids. All participants classified as food insecure had a lower mean serum ferritin, and the mean hemoglobin was significantly lower among men and premenopausal women. Both men and women had lower intakes of energy-adjusted fibre, vitamin C, iron, and magnesium. Additionally, women had lower intakes of calcium and vitamin D and greater carbohydrate intake. These results show that adults living with food insecurity who consume less traditional foods are at risk of a decreased nutrition

status and are at greater risk of chronic diseases, due to low fibre intake and higher amounts of *trans*-Fatty Acid intake.

Friendship, Katelyn., Susan Bernier, Chris Furgal, Eric Dewailly, Kristeen McTavish, and Nunatsiavut. 2010. *Urqsuk: the changing nature of Arctic fats and the Inuit diet*. Paper presented at the International Polar Year Oslo Science Conference, Oslo, Norway.

This poster presentation summarizes key results from a research study conducted in Nain, Nunatsiavut and Clyde River, Nunavut. The poster only contains research findings from Nain, Nunatsiavut. This study poses several questions, including what is the nature of perspective, attitudes, behaviour, and knowledge of traditional and contemporary fats? Are these changing in response to changes in the environment and animal health or other factors? And what are the impacts of these perspectives on diet and other behaviours in Inuit communities today? The methods were a literature review and focus groups. Findings from the focus groups suggest that for Labrador Inuit country food fat is an essential part of cultural identity, while health concerns influenced the intake of fat among elder women. Accessibility, availability, and affordability were also other key factors influencing country food fat consumption. Participants observed changes over time in the fat quality in some species such as caribou and seal.

Hutton, Samuel King. "A Thesis on the Health and Diseases of the Eskimos." Derby: James Harwood, 1909. <http://lib-lespaul.library.mun.ca/PDFs/cns/AThesisonthehealthanddiseasesoftheeskimos.pdf>

Dr. Hutton was a physician who worked with the Moravian Mission for five years from 1903 to 1908. During this time, he observed the diets of Labrador Inuit and published a thesis on his observations. These observations include their diet was primarily meat and they ate what was in season. Dr. Hutton attributes the health status of Labrador Inuit to their diet, particularly seal meat. He also remarks on issues with bottle feeding versus breastfed babies. At the end of his thesis, he provides four suggestions to maintain the Labrador Inuit health status. Two recommendations focus on diet and settlement. One is Europeanisation in which he states European foods have a detrimental influence on Labrador Inuit and recommends that Labrador Inuit should continue to eat their own foods. The second is Concentration, which affects their access to a food supply and increases the danger of epidemic disease. Dr. Hutton provides one of the kinder descriptions of Inuit and their ways and was quite astute in predictions of the negative impacts of Europeanization.

In retrospect, his observations were remarkable given he was part of the missionary encouraging Labrador Inuit to settle and adopt European ways.

Kuhnlein, Harriet. V., Olivier Receveur, Rula Soueida, and Grace. M. Egeland. 2004. "Arctic Indigenous Peoples Experience the Nutrition Transition with Changing Dietary Patterns and Obesity." *The Journal of Nutrition* 134 (6): 1447–1453.
<https://doi.org/10.1093/jn/134.6.1447>

This study was part of the research program of the Northern Contaminants Program of Indian and Northern Affairs Canada. Study methods included an analysis of studies on dietary intakes with similar survey methods from 44 communities within the Yukon territory, the Northwest Territories, and Labrador Inuit over a 10-year period. Each survey had 24-hour recalls with food models and pictures of traditional foods to prompt recognition. The authors state the results show the nutrition transition was well underway. While traditional foods were only 10–36% of the diet, on the days of traditional food consumption, the intake was overall healthier. On these days, there was a higher energy and protein intake, higher vitamin and mineral intake, and significantly less carbohydrates and sugar. Of note was that vitamin D intake was three times higher on days with traditional food for Labrador Inuit than for Yukon and Metis. On days with higher amounts of market foods, vitamin C, folate and fibre, and sodium were higher. Improving nutrition intake requires consistent access to traditional food and more availability of healthier, nutrient dense market food.

Little, John. M. 1917. "An Eskimo Deficiency Disease." *Boston Medical Journal*. 3 (18): 642–643

In this brief article, Dr. Little provides a commentary on his observations of the protective effect of the Labrador Inuit diet on preventing dietary deficiencies. While he notes the Labrador Inuit diet of game makes them susceptible to scurvy, it also contributes to good overall health. He makes this connection when Labrador Inuit only consume a fish diet or have a shortage of berries. At this time, “kallak”, an endemic disease that appears as pustule-like lesions on the hands and buttocks, emerges. However, if Labrador Inuit have plenty of seal meat, they do not develop kallak. He suggests the best cure is to add seal meat or berries to the diet. Another factor reinforcing this observation was a lone report of a Scotsman with kallak, reinforcing his belief of the Labrador Inuit diet versus being Inuit.

Taylor, John. G. 1972. "Eskimo Answers to an Eighteenth-Century Questionnaire." *Ethnohistory* 19 (2): 135–145. <https://doi.org/10.2307/481748>

For context, Newfoundland was a British colony at the time of this study. In 1765, Sir Hugh Pallisar, the Governor of Newfoundland, engaged a Moravian missionary to interview Labrador Inuit on a wide variety of topics to add to existing knowledge on their cultural life. Christian Dachard, a Moravian missionary, interviewed a group of Labrador Inuit at Chateau Bay. The author reviewed Moravian Mission records and summarized the interview results. Dachard provided Sir Pallisar with the results from the interview on August 28, 1765. Two of these topics, employment and their food, are relevant to the modern definition of food security. For employment, Labrador Inuit state they are employed in catching whales, seals, and birds and in summer they hunt deer, fish for cod and salmon, and catch herring with a small hoop. As for intake, Labrador Inuit consumed part of the whale, seals, cod, herring, and salmon. He also notes that Labrador Inuit were not fond of the Europeans being among them. This was one of the first self-reported studies of dietary intake for Labrador Inuit.

Zhou, Yuan E., Stan Kubow, and Grace M. Egeland. 2011. "Highly Unsaturated N-3 Fatty Acids Status of Canadian Inuit: International Polar Year Inuit Health Survey, 2007–2008." *International Journal of Circumpolar Health* 70 (5): 498–510. doi:10.3402/ijch.v70i5.17864

This study aims to measure the level of highly unsaturated n-3 fatty acids from the dietary intake of 2,595 self-identified Inuit adults in the International Polar Year studies from 2007–2008 within three Inuit regions. Inuit traditional foods are an important source of highly unsaturated n-3 fatty acids (HUFA n-3) and they offer beneficial health effects such as protection against heart disease. The methods have been described in other summaries in this annotated bibliography. Among them, fasting red blood cell samples were available from 2,200 individuals (84.8%) for the measurement of erythrocyte membrane fatty acids. Results showed that speaking an Inuit language was associated with higher HUFA n-3 levels and in older age ranges. Results varied by region with Nunatsiavut (northern Labrador) and Baffin showing the highest HUFA n-3 status compared to Kivalliq, Kitikmeot, and Inuvialuit Settlement Region (ISR) and by location, with the HUFA n-3 status higher in coastal regions than in inland communities. However, this is difficult to attribute directly to traditional food consumption as species can vary by location. Based on the study results, the authors determine that there are considerable differences in the fatty acid profiles of Inuit in

Canada. They attribute this difference to their diverse dietary patterns by age and location. They also conclude that multiple nutrition interventions are required to improve HUFA n-3 intake.

A6. Food costing

The cost of food is a key factor influencing food security. These studies provide an overview of food costing methodologies throughout time that include Labrador Inuit.

Government of Canada. Nutrition North Canada. *Cost of the Revised Northern Food Basket in 2018-2019*. Last modified September 24, 2019.
<https://www.nutritionnorthcanada.gc.ca/eng/1569345519478/1569345646952>

The Northern Food Basket is a cost estimate of how much it is to feed a family of four a healthy meal for one week in northern communities in Canada. The Federal Government of Canada calculates this price using price data from registered retailers with the Nutrition North Canada program that have stores in an eligible community. Of note is that only two (Nain and Rigolet) of the five Nutrition North Canada-eligible communities within Nunatsiavut collect food price data from respective stores in the communities. The cost of the revised Northern Food Basket for Nain in March 2019 was \$451.8, which was a 45.38% increase from 2011. The 2019 cost for Rigolet was \$366.34 per week. There was no calculation for the difference from 2011.

Government of Newfoundland and Labrador. 2018. *Newfoundland and Labrador Nutritious Food Basket*. Department of Statistics, September 13, v04, 2018.
https://www.stats.gov.nl.ca/Publications/pdf/NNFB_2018_09_13_v04.pdf

This fact sheet summarizes the Newfoundland and Labrador Nutritious Food Basket costs, which is a tool for monitoring the cost and affordability of healthy eating in Newfoundland and Labrador. The tool includes 63 foods that reflect the usual purchasing patterns for the population in Newfoundland and Labrador. The Regional Nutritionist within each region collects the data, and the Department of Statistics provides the analysis by each region within the province of Newfoundland and Labrador. This tool is also used to establish cost of living estimates in the Market Basket Measure and informs other health, nutrition and social policies. The results show the highest costs are \$402.00 per week for a family of four on the North Coast and \$276.00 in the same Labrador Grenfell Region. For a family of four, the provincial average is \$264.00 per week.

Snowden, Donald, Cyril Goodyear, Frieda Hettasch, and Renee Snell. *Report of the Royal Commission on Labrador, Vol IV – Economic Factors*. Planning and Priorities Secretariat Executive Council, May 1974a. <https://collections.mun.ca/digital/collection/cns2/id/122162/rec/9>

This report summarizes the economic factors that affected residents of Labrador in 1973. One of these factors was the cost of living. The cost-of-living section includes food, household operation, clothing, transportation, health and personal care, recreation and reading, and tobacco and alcohol. The cost-of-living section provides an overview of the cost to live in Labrador compared to the island of Newfoundland. They developed a Labrador Basket as a basis for costing and included the price of food. They completed the costing in January–February 1973. At the time, food costs were 4–8% higher in Labrador than in St. John’s. An interesting note in this report is the cost of eating in Makkovik was 7% lower than in St. John’s, and the cost of food was 16% higher in Goose Bay. The authors attribute this to the higher cost of transportation of food to the Labrador Coast and subsidization of stores by the Newfoundland Government. Based on the costing in this report, the authors recommend a higher amount for living in Labrador for welfare rates. The overall calculated difference in cost of living was 10–12% higher in Labrador. This report suggests all government programs provide per capita grants to Labrador or provide service grants to Labrador based on actual cost of living differentials in Labrador.

Snowden, Donald, Cyril Goodyear, Frieda Hettasch, and Renee Snell. *Summary of the Report of the Royal Commission on Labrador 1974*. Planning and Priorities Secretariat Executive Council, May 1974b. <https://collections.mun.ca/digital/collection/cns2/id/123169/rec/3>

This report was the last of a series of volumes on a Royal Commission Report for Labrador. This volume is simply the list of recommendations in point form. The recommendation that applies to nutrition and food security in Labrador is recommendation 59, listed under welfare services. It states: “The commission recommends that the province provide a higher rate of social assistance to recipients in Labrador, in recognition of the higher expenditures on food and clothing only, and that this increase should be ten percent, which is approximately the average additional expenditure between St. John’s and Labrador.”

A7. Food security surveillance

Documenting food security as an issue is an important aspect of population health as it describes the magnitude of the issue. This section includes studies that have documented the prevalence of food security among Labrador Inuit.

Arriagada, Paula. *Food Insecurity among Inuit living in Inuit Nunangat*. Ottawa: Statistics Canada, February 2017. <https://www150.statcan.gc.ca/n1/pub/75-006--x/2017001/article/14774-eng.htm>

This study uses data from the 2012 Aboriginal Peoples Survey to examine the prevalence of food insecurity, factors affecting food security, and health outcomes of Inuit living in Inuit Nunangat due to being food insecure. The analysis showed that 52% of Inuit in Inuit Nunangat aged 25 lived in a household that had experienced food insecurity in the past 12 months; for Nunatsiavut, it was 42%. This is high compared to only 14% of Inuit living outside of Inuit Nunangat. Factors affecting food insecurity were lack of money, as 32% of adults reported they ate less due to lack of money, 26% were hungry but could not afford food, and 40.5% skipped meals almost every month. Other factors included gender, as women were more likely to be food insecure, marital status and children, as being a lone parent had a higher prevalence of food insecurity, those living in a crowded household, and not completing high school. Finally, unemployment, a household income below the median, and weak family ties were also factors associated with food insecurity. As for health outcomes, those who were living with food insecurity were more likely to rate their overall health and mental health as good/fair/poor versus very good/excellent and had a greater predicted probability of having at least one chronic condition. While this study does not provide causation, it provides associated characteristics that can inform future policy and programming efforts.

Furgal, Chris, Kristeen McTavish, Rebecca Martin, and IHACC Research Team. 2017. *The importance of Scale in Understanding and Addressing Arctic Food Security*. Arctic Change, International Conference, December 2017, Quebec City, Canada. [Presentation, Abstract].

This poster summarizes the initial results of the Nunatsiavut household food security data. In 2014, locally trained researchers delivered a survey to 537 households; the survey included the United States Department of Agriculture's 18-item household food security survey questions.

Researchers asked participants about the food situation in their house the month before and provided results at both a regional and community level. The categories included food secure, marginally food secure, moderately food insecure, and severely food insecure. On a regional level, 46.7% of households were food secure, 8.1% of households were moderately food secure, 29.7% of households were moderately food insecure, and 21.6% of households were severely food insecure. Nain (20.2%) and Hopedale (16.9%) had the lowest percentages of food security versus the highest percentage of food secure households in Rigolet (77.9%). Nain also had the highest percentage (30.3%) of severely food insecure households.

Huet, Catherine. "Prevalence and Correlates of Food Insecurity in Inuit Communities" MSc. diss, School of Dietetics and Human Nutrition, McGill University, 2010.
<https://www.collectionscanada.gc.ca/obj/thesescanada/vol2/QMM/TC-QMM-97113.pdf>

This thesis measures the prevalence of food insecurity through a cross-sectional Inuit Health Survey. The survey, part of the International Polar Year Health projects, was conducted on 2,595 adults from 36 Inuit communities. The survey measured the food security status of households and adults. Overall, 33.6% of households were moderately food insecure and 29.1% of adults were severely food insecure. Food insecurity risk was associated with household crowding, low education, and income, among other characteristics.

Huet, Catherine, Renata Rosol, and Grace M. Egeland. 2012. "The Prevalence of Food Insecurity is High and the Diet Quality Poor in Inuit Communities." *The Journal of Nutrition* 142 (3): 541–547. <https://doi.org/10.3945/jn.111.149278>

The purpose of this study is to determine the prevalence, socio-demographic, and dietary correlates of food insecurity in 36 Inuit communities in the Inuvialuit Settlement Region, Nunavut, and Nunatsiavut. Study methods included a cross-sectional survey of 1,901 Inuit households from 2007 to 2008. The survey measured food security, 24-hour dietary recalls, socio-demographics, and anthropometry. Researchers identified food insecurity in 62.6% of households with 27.2% of households severely food insecure. The prevalence of food insecurity and severe food insecurity was higher among those who did not complete a secondary education and those with an income of \$20,000 CAD, compared with those who had higher education and income. Food insecure adults had a lower Body Mass Index, waist circumference, and body fat percentage. They also had a significantly lower Healthy Eating Index, consumed fewer fruits and vegetables, grains and dairy

products, and received more energy from high-sugar foods. Finally, they also had a lower frequency of traditional food intake per day. Of note was that high sugar drink consumption was consistent among food secure and food insecure households. The study results show nutrition transition is occurring and that a need for broader public health, poverty reduction, and food security interventions.

Natcher, David, Lawrence Felt, and Andrea Procter. 2009. "Monitoring Food Security in Nunatsiavut, Labrador." *Plan Canada* (49): 52–54.

In 2004, the Nunatsiavut government recognized that traditional foods and resources were a part of household food consumption and achieving food security for Labrador Inuit. Concurrently, the Nunatsiavut Government was also concerned about sustainability as they had not established levels of traditional foods for households in Nunatsiavut to inform the Inuit Domestic Harvest Levels. Establishing these levels was an important part of traditional food sustainability. The surveys determined that the established levels of harvested foods per household were 35 kg (78 lbs) of edible meat for every Nunatsiavut man, woman, and child. This would substitute about \$1,326.00 of store-bought meat for a family of four. At the time of the study, the median income was \$10,000 and replacing harvested foods with store-bought foods was a considerable expense for a family. The authors also note this is a pure direct cost and does not take the impact on physical health into consideration. The authors conclude that taking part in sustenance activities ensures social and economic continuity of Nunatsiavut communities.

Owens, Sandra, Philippe De Wals, Grace Egeland, Christopher Furgal, Yang Mao, Gerald Y. Minuk, Paul A. Peters, Manon Simard, and Éric Dewailly. 2012. "Public Health in The Canadian Arctic: Contributions from International Polar Year Research." *Climatic Change* 115 (1): 259–281. <https://doi.org/10.1007/s10584-012-0569-3>

The International Polar Year Research projects provided an opportunity to learn more about the Arctic in Canada, specifically the health of Inuit living within Inuit Nunangat. While the human health research projects measured human health outcomes, they also viewed health from a population health perspective. From these project results, food and housing were cited as two social determinants of health. The focus on food included the change in nutrition, specifically the transition away from country food towards market foods that contribute to a nutrient deficit. This is happening despite increased knowledge of the benefits of traditional foods for physical and

mental health. Food safety was another area of research, and they suggest continuing food safety monitoring.

Rosol, Renata, Catherine Huet, Michele Wood, Crystal Lennie, Geraldine Osborne, and Grace M. Egeland. 2011. "Prevalence of Affirmative Responses to Questions of Food Insecurity: International Polar Year Inuit Health Survey, 2007–2008." *International Journal of Circumpolar Health* 70 (5): 488–497. <https://doi.org/10.3402/ijch.v70i5.17862>

This article summarizes the prevalence of food insecurity in three Inuit regions among Inuit households in the Canadian Arctic and provides suggestions to address food security within these regions. During 2007–2008, 2,595 self-identified Inuit adults aged 18 years and over completed quantitative household food security questionnaires, tailored to Inuit. The prevalence of food security and insecurity varied by Inuit region. In Nunatsiavut, 54.3% of households were food secure, 45.7% were food insecure, and 30.5% were moderately food insecure. For children, 74.2% were food secure, 25.8% were food insecure, and 14.8% of children were moderately food insecure. Demographic characteristics of the population included 49.5% of respondents had not completed secondary school, 35.7% of respondents were employed, 46.1% made less than \$20,000, and 33.7% were on income support. Each household had an average of 3.7 people, 78.8% of households had a hunter, 80% of households distributed traditional food, and the weekly cost of groceries was \$220.30. The lower rate of child food insecurity suggests that adults decreased their intake to protect children. The multifaceted solutions proposed to improve food security include increased income support, greater traditional and market-food sharing and distribution networks, programs targeted to those at greatest risk, supporting community hunters and trappers' organizations, increasing economic opportunities in communities, and general efforts to mitigate risks associated with climate change.

Statistics Canada. *Fact Sheet: Inuit Health, Education and Country Food Harvesting*. Ottawa: Component of Statistics Canada Catalogue no. 89-637-X 2008004. Statistics Canada, 2008.

The 2006 Aboriginal Health Survey focuses on six determinants, namely access to health care services, addictions as measured by smoking rates, formal education experience, housing conditions, productivity as measured through participation in harvesting activities, and food security and nutrition. This report contains findings for Inuit children aged six to 14 and Inuit adults aged 15 and over. Results show that parents of Inuit children aged six to 14 years reported

that three in ten Inuit children experienced hunger because the family had run out of food or had no money to buy food. Specific to Nunatsiavut, 30% of children reported they were hungry because the family had run out of food or had no money to buy food. Also, 74% of Inuit men and 62% of Inuit women of all ages had harvested country food, with country food making up 79% of the fish and meat eaten by many Inuit families in Nunatsiavut. Another factor noted was that community members share food with others.

A8. Food systems in the North

This section provides an overview of policy recommendations to improve food systems in the North.

Northern Indigenous Economic Development Board. *Recommendations on Northern Sustainable Food Systems*, February 2019. http://www.naedb-cndea.com/reports/NORTHERN_SUSTAINABLE_FOOD_SYSTEMS_RECOMMENDATIONS%20REPORT.pdf

The Northern Economic Development board created this report based on their research and discussion results from a roundtable event held in Whitehorse, Yukon in June 2018. The authors consider northern sustainable food systems a critical component of economic development in the North. They also note that sustainable food systems support food security, which contributes to both healthier communities and individuals. The report provides five recommendations. The first recommendation comprises four policy tools including supporting hunters, the procurement of traditional foods for use in hospitals, schools, and government institutions, developing appropriate marketing and management practices, and facilitating food safety inspections. Second is to develop and enhance climate change and adaptation programs and small-scale Indigenous fisheries. Third is to enhance the Nutrition North Canada program, focus on local food harvesting and transportation subsidies for traditional foods, and introduce a Northern Basic Income Allowance and Northern indexed federal income tax rates. Fourth is an ongoing infrastructure investment strategy that continues to focus on transportation infrastructure maintenance and requirements. The fifth recommendation is the simplification and coordination of funding opportunities for northerners. The authors state these recommendations also seek to further Indigenous self-determination and self-government through a distinctions-based approach.

A9. Health impacts of dietary changes

The studies within the section focus on the health impacts of dietary changes on individuals and factors such as food insecurity or low socioeconomic status.

Egland, Grace M. *Inuit Health Survey 2007–2008: Nunatsiavut. International Polar Year Inuit Health Survey: Health in Transition and Resiliency and the Nunatsiavut Steering Committee.* May 2010. https://www.mcgill.ca/cine/files/cine/adult_report_-_nunatsiavut.pdf

This report provides results of the Inuit Health Survey conducted in Nunatsiavut in 2008 in which 239 households and 310 individuals over the age of 25 completed the survey. The survey included all five communities within Nunatsiavut. It included questions on home environment, language, smoking, food insecurity, cost of living, self-reported health indicators such as weight and smoking, nutrition and parasitic disease, and *Helicobacter Pylori*. Results show that the average age of participants was 44 years, 55.8% of households were food secure, 15.9% of households were severely food insecure, 54.2% of households with children were food secure, and 17.8% of households with children were severely food insecure. The reasons cited for food insecurity were unemployment, low income, and high food costs; 80% of households shared their country food with others in the community. The average household spent \$880.00 per month on food; for households with children the cost was \$980.00. One third of those surveyed relied on income support. The average household spent \$713.00 on shelter.

Sheikh, Nelofar, Grace M. Egeland, Louise Johnson-Down, and Harriet V. Kuhnlein. 2011. "Changing Dietary Patterns and Body Mass Index over time in Canadian Inuit Communities." *International Journal of Circumpolar Health* 70 (5): 511–519. <https://doi.org/10.3402/ijch.v70i5.17863>.

This study compares the differences in dietary patterns and Body Mass Index from two surveys, conducted ten years apart on the same population of Inuit in Canada. The first study was conducted in 1998–1999 by the Centre for Indigenous Peoples' Nutrition and Environment and the second survey was conducted by the Centre for Indigenous Peoples' Nutrition and Environment in 2007–2008 as part of the International Polar Year Inuit Health Survey. There was a similar method for the 24-hour dietary data collection and similar food composition databases for market foods and traditional foods. Response rates were similar for the two studies (76.52% for the Centre for Indigenous Peoples' Nutrition and Environment and 76.52% for the International Polar Year Inuit

Health Survey). A comparison of results showed an overall decline in traditional food consumption, especially among younger people. The Body Mass Index increased for all ages and both sexes, with the most significant increase in older people and women. The authors suggest implementing programs to improve traditional food consumption and quality market food to better the health of Inuit.

Zienczuk, Natalia, and Grace M. Egeland. 2012. "Association between Socioeconomic Status and Overweight and Obesity among Inuit adults: International Polar Year Inuit Health Survey, 2007–2008." *International Journal of Circumpolar Health* 71 (1): 18419. <https://doi.org/10.3402/ijch.v71i0.18419>.

This study follows the same method as the previous studies cited in the Polar Year Studies from 2007–2008. This analysis focuses on the correlation of sociodemographic variables adjusted for age, gender and region, higher education, any employment, personal income, and private housing, all significantly positively correlated with an at-risk Body Mass Index. The higher education and income association with a higher Body Mass Index is an indicator of nutrition transition, and the same observation has been noted within other indigenous populations and developing countries. Smoking, Inuit language as the primary language spoken at home, and walking were inversely associated with overweight and obesity. The language analysis shows that if they spoke an Inuit language and English, odds of an at-risk Body Mass Index increase and will increase even more if only English is spoken. These results bring forward the discussion regarding the influence of acculturation versus other socioeconomic factors regarding an at-risk Body Mass Index.

Zienczuk, Natalia, T Kue Young, Zhirong R Cao, and Grace M Egeland. 2012. "Dietary Correlates of an at-risk BMI among Inuit Adults in the Canadian High Arctic: Cross-Sectional International Polar Year Inuit Health Survey, 2007–2008." *Nutrition Journal* 11 (1). doi:10.1186/1475-2891-11-73

The study investigates the dietary correlates of an at-risk Body Mass Index among Inuit adults in 36 Inuit communities in the Inuvialuit Settlement Region, Nunavut, and Nunatsiavut. The study methods included a cross sectional survey of 1901 Inuit households from 2007–2008. The survey included assessments of 24-hour dietary recall, socio-demographics, physical activity, and anthropometry. An at-risk Body Mass Index cut-off greater than or equal to 25 was used to measure overweight and obesity. An at-risk Body Mass Index was present for 64% with a prevalence of overweight and obesity of 28% and 36%, respectively. A high sugar drink consumption was related

to an at-risk Body Mass Index. Total carbohydrate was inversely related to an at-risk Body Mass Index. The authors suggest the study findings point to the need for health programs to promote reduced intake of sugary drinks, healthy diets, and increase physical activity.

A10. Labrador Inuit perspectives on food security and mining

This section includes articles that provide a first-person account of the issue of food security and the mining industry in the Labrador Inuit Land Claims area.

Mills, Suzanne, Johanna Tuglavina, Deborah Simmons, and Russell Claus. 2017. "Food Security and Mining in Nunatsiavut." *Northern Public Affairs*, April 5 (1): 39–41
<http://www.northernpublicaffairs.ca/index/volume-5-issue-1/food-security-and-mining-in-nunatsiavut/>

This article provides insights into the link with mining and food security from women living in Nunatsiavut. The methods included focus group discussions conducted with 16 Inuit women living in the coastal communities within Nunatsiavut on July 21 and 22, 2015. They discussed the effects of the nearby Voisey's Bay Mine a decade after it opened in 2005. The participants felt food security required urgent action. Three themes emerged from the discussion. The first theme was mining wealth, inequality, and food insecurity, meaning that the mine did not help ease poverty and created divisions in Nain. Theme two was mining injustice, as they highlighted the mine was making a lot of money off their land, yet people could not eat. Theme three was time on the land; they felt working at Voisey's Bay Mine influenced the time on the land hunting, fishing, and harvesting. The women provided suggestions for food security in the future, including using royalties to set up community greenhouses, a staff member to support helping people in times of crisis, and support for subsistence harvesting on the land. The author asserts Nunatsiavut women are not just the victims of food insecurity—they are also an important part of the solution.

Tuglavina, Johanna. April 2017. "Thinking Food Security: "Outside the Box"." *Northern Public Affairs*, 5 (1): 42–43. <http://www.northernpublicaffairs.ca/index/volume-5-issue-1/thinking-food-security-outside-the-box/>

This article provides a first-person perspective from a woman living in Nain, Labrador on food security in Nunatsiavut. She starts the article remarking on the increased availability of foods in Nain and the significance of being able to choose healthy foods, which she can afford due to her income. She mentions the contrast with the community of Nain and the nearby Voisey's Bay

mining site, where there is ample healthy food and exercise equipment. While she agrees that people working in Voisey's Bay should have access to these services, she also suggests it is possible to collaborate on initiatives such as traditional food harvesting and partnering with industry to take steps towards improving food security.

A11. Policy reports and recommendations on food security

Policy recommendations for improving food security often exist in the form of policy reports based on evidence or reports based on stakeholder input. This section contains documents developed through a combination of the two above methods and includes Labrador Inuit.

Canada. Crown Indigenous Relations and Northern Affairs Canada. *Nutrition North Canada Engagement 2016: Final report of what we heard*. Nutrition North Canada, Ottawa, Canada, 2016. <https://www.nutritionnorthcanada.gc.ca/eng/1491505202346/1491505247821>

In 2016, based upon feedback from the Northerners and Indigenous Peoples, and the Auditor General's recommendations, the Nutrition North Canada program undertook broad public engagement to gain ideas for improvement. The program completed a consultation in Rigolet, Labrador on June 20, 2016; Inuit Tapiriit Kanatami also sent a submission as part of this consultation. The final report lists several areas of improvement, namely improve the eligibility list of foods as it was too southern and did not consider traditional diets, improve program efficiencies such as developing partnerships, consider alternate transportation methods, address issues related to spoilage and waste, enhance nutrition education initiatives, and enhance the subsidy management. They also provide suggestions to improve fairness and consistency of the program and improve transparency through communicating the program's purpose, setting clear and measurable goals, and addressing concerns that the program subsidy is not being addressed in full. Another area of improvement was communication on eligibility, subsidies, and administration. The last set of recommendations focused on implementing areas of innovation such as new program objectives, developing a new program model/design, redesigning the subsidy, undertaking new research, and developing new nutrition education initiatives.

Gordon Foundation. *Recommendations on Country/Traditional Foods from the Northern Policy Hackathon*, 2017. <https://gordonfoundation.ca/wp-content/uploads/2018/01/Northern-Policy-Hackathon-Digital.pdf>

The Gordon Foundation convened a two-day policy hackathon on October 25 and 26, 2017 to focus on creating federal policy solutions for country foods. Participants were from all of the four Inuit Land Claims Areas, and they had a variety of professional and technical backgrounds. The overarching sentiment was that strong northern food policies must incorporate made-in-the-North solutions. The document also states that government policies influencing country and traditional foods are complex. With that context, the report has three recommendations: 1. Create a new Country/Traditional Foods Policy Framework to optimize all aspects of country/traditional foods; 2. Create a Federal Wild Foods Inspection Act that would enable Indigenous hunters to process and sell country/traditional foods that meet food safety standards using traditional knowledge; 3. Support a community-based education initiative related to traditional foods. Finally, the report concludes with drawing links to the commitments with the Arctic Policy Framework and Calls to Action from the Truth and Reconciliation Commission.

Inuit Food Security Working Group. *Nutrition North Program Engagement, Written Submission*. November 30, 2016. <https://www.itk.ca/wp-content/uploads/2017/10/Appendix-I-Inuit-Food-Security-Working-Group-NNC-Engagement-Written-Submission.pdf>

Inuit Tapiriit Kanatami coordinates the Inuit food security working group, and it has representation from all of the four Inuit Land Claim areas, including Nunatsiavut. This submission to the Nutrition North Canada program as part of a program consultation provided several recommendations for improvement. These included revising the program model as the current model does not benefit Inuit or prioritize their health, addressing current challenges noted with program assessment, increasing the program budget, restructuring the advisory board to include equal representation from all Inuit regions, expanding and strengthening the education component of the program, increasing program subsidies for country food beyond federally regulated processing plants, collaborating on the subsidization list to ensure it takes into consideration the dietary preferences and habits of Inuit, and improving program communication.

Inuit Tapiriit Kanatami. *Social Determinants of Inuit Health in Canada*. Ottawa, Ontario, 2014.

This document lists the Social Determinants of Inuit Health as defined by Inuit in Canada. The Inuit Tapiriit Kanatami developed this document through a literature review, consultations within Inuit regions, and discussions with members of the Inuit Public Health Task Group. The authors state this paper acts as a resource to support public health activities across Inuit regions in Canada

and functions as a reference for organizations and governments working within the Canadian health and social services sector. It also takes a holistic and overall health status approach to the determinants, which include quality of early child development, culture and language, livelihoods, income distribution, personal safety and security, education, food security, availability of health services, mental wellness, and the environment. Food security challenges include high rate of employment and underemployment, low household incomes, lack of access to adequate levels of quality foods, and high cost of living including high food prices. Efforts to address food security include expanded employment programs, programs that reduce cost of shipping food, increasing the number of nutritious food education initiatives, food security strategies and harvester support programs, and other community initiatives.

Inuit Tapiriit Kanatami. *Social Determinants of Inuit Health in Canada* Fact Sheet 05, September 2014.

The fact sheet defines food security and provides an overview of the Inuit food system. It also provides a definition of the social determinants of health, statistics regarding food security, and highlights key initiatives to address food security across Inuit Nunangat.

Inuit Tapiriit Kanatami. *An Inuit-Specific Approach for the Canadian Food Policy*. November 20, 2017. <https://www.itk.ca/inuit-specific-approach-for-canadian-food-policy/>

The report provides recommendations from the Inuit Tapiriit Kanatami for the development of Food Policy for Canada. Discussions during a National Inuit Engagement Session on Food Policy for Inuit Nunangat informed the recommendations and representatives from Nunatsiavut attended the engagement meeting. The report has four sections: the first two sections describe the current engagement session and a primer on Inuit food systems; the next two sections summarize the discussions and final recommendations for developing a food policy from an Inuit perspective. These broad recommendations include: 1. Governance and funding that respect Inuit self-determination by utilizing Inuit governance structures for decision-making; 2. Increase income and employment opportunities; 3. Invest in food infrastructure and development; 4. Prioritize country food and market access; 5. Monitor and evaluate the results. These recommendations also have several sub recommendations.

Inuit Tapiriit Kanatami. *Arctic and Northern Policy Framework: Inuit Nunangat*

Ottawa, Canada, 2019. <https://www.itk.ca/arctic-and-northern-policy-framework-inuit-nunangat/>

This document was developed by the Inuit Tapiriit Kanatami to provide input on how the Government of Canada can apply an Inuit Nunangat policy within the Arctic and Northern Policy framework. The author states that to implement this framework, partnerships with Inuit are required for this policy and distinct funding directly to Inuit where they have an interest. Other factors to consider are flexible program criteria and fiscal instruments so Inuit can self-determine how programs and services are developed, delivered and evaluated within their regions. Also, support bilateral relations and complete federal action and investments in Inuit Nunangat in the priorities outlined by the Inuit Tapiriit Kanatami. These priorities include infrastructure and economic self-reliance, Inuit self-determination in research, education, and wildlife and food security. For food security, the strategic objective is to have Inuit exercise harvesting and wildlife management rights into the foreseeable future.

Inuit Tapiriit Kanatami. *Inuit Nunangat Food Security Strategy*. Ottawa, Canada, July 2021. https://www.itk.ca/wp-content/uploads/2021/07/ITK_Inuit-Nunangat-Food-Security-Strategy_English.pdf

This document was prepared by the Inuit Tapiriit Kanatami and provides an overview of the context that necessitates a specific food security strategy for Inuit within Inuit Nunangat. The strategy then identifies five priority areas that include food systems and well-being, legislation and policy programs and services, knowledge, skills and capacity, and research and evaluation. There is a strong focus on Inuit self-determination and food systems and an overview of food security solutions that include support for families and children, food security programs and interventions, cost-of-living reduction measures, harvester support, and infrastructure.

Inuit Tapiriit Kanatami and Inuit Circumpolar Council. n.d. *Inuit and the Right to Food*. Ottawa, Canada

The Inuit Tapiriit Kanatami and Inuit Circumpolar Council prepared this submission and submitted it to the United Nations Rapporteur for his Official Country Mission to Canada in 2011. The report summarizes Inuit in Canada, the Inuit diet, namely the combination of both country and market foods, and the dietary transition. A description of food insecurity rates across Inuit Nunangat and a list of factors affecting food insecurity, namely cost of food, availability, variety and quality, low income, and climate change and contaminants is also provided. There is

also a focus on the Nutrition North Canada program. Finally, the report ends with recommendations that include: prioritize sustainable food procurement, affirm food subsidy programs are meeting the needs of Inuit communities by securing accessibility to both market and country food, ensure income support and social programs for Inuit are adequate to attain the right to food, address inequitable determinants of health, adopt a national food policy that outlines the Right to Food for Inuit and other Indigenous Peoples, develop a national Inuit strategy on the Right to Food, and establish accountability mechanisms including clear time frames and benchmarks to remedy the current state of food insecurity among Inuit. The report also reiterates the need to engage Inuit in working towards any actions on realizing the Right to Food for Inuit.

Ungava Peninsula Caribou Aboriginal Round Table (UPCART). *A Long Time Ago in the Future: Caribou and the people of Ungava 2017–2027*.

<https://nunatukavut.ca/site/uploads/2019/05/upcart-strategy-2017-11-07-eng-signed-sm.pdf>

This strategy guides Indigenous Peoples in their shared commitment to work together in solidarity to preserve caribou and Indigenous Peoples' relationship to them, in respect of all Indigenous cultures for the well-being of present and future generations. The strategy starts with a signatory page of all representatives within the Ungava Peninsula Caribou Aboriginal Round Table. This strategy has a specific vision, mission, and goals; it also provides information about the Indigenous groups that are signatory to this strategy. The action plan in this strategy has five priorities: 1. Indigenous Sharing Agreement; 2. Research and Monitoring Plan; 3. Habitat Management and Environmental Impact Plan; 4. Stewardship, Engagement, and Communication Plan; 5. Social and Economic Plan. The Nunatsiavut Government was a signatory of this strategy.

A12. Poverty and Inuit

Duhaime, Gérard, and Roberson Édouard. 2015. "Monetary Poverty in Inuit Nunangat." *ARCTIC* 68 (2): 223. <https://doi.org/10.14430/arctic4481>

This article aims to measure monetary poverty for Inuit living in Inuit Nunangat. Monetary poverty is defined as the deprivation of material necessities in everyday life and has not been measured across Inuit Nunangat. This article uses the low-income measure and data from the 2006 Canadian Census and 2006 Aboriginal Peoples Survey to calculate poverty rates. Using this method, the unadjusted initial values were 21.1% for Inuit Nunangat and 18.4% for Nunatsiavut.

These results show the poverty rate within Inuit Nunangat is five times the rate suggested by Statistics Canada for the same year, and the proportion of Inuit children living in poverty is two to three times that of Canadian children. While the authors note several limitations to their calculations, it still contributes to an understanding of poverty within Inuit Nunangat. Poverty within Inuit Nunangat requires further research on measurements but with an Inuit understanding of the issue.

A13. Reducing food costs in northern Labrador

This section includes historical and current policy interventions and recommendations that aim to reduce high food costs in northern Labrador.

Galloway, Tracey. 2017. "Canada's Northern Food Subsidy Nutrition North Canada: A Comprehensive Program Evaluation." *International Journal of Circumpolar Health* 76 (1): 1279451. doi:10.1080/22423982.2017.1279451

This article assesses if the Nutrition North Canada program met its intended goal of providing access to nutritious foods for residents of remote and northern communities. This article includes communities within Nunatsiavut that are recipients of the program. Study methods consisted of an examination of program documents including a costing report from 2011 to 2015 and the program's performance measurement strategy. A modified conceptual framework was used to assess documents emphasizing how policy and programs act to improve health outcomes, in particular aspects of programs, which influence program performance and equity of outcomes. The author concludes the program cannot meet the intended goal because it lacks an adequate evidence base, as the current structure and regulatory framework for Nutrition North Canada does not provide appropriate information, and the program lacks responsiveness to concerns. There are also inequities of available food (the average per capita weight of subsidised food is consistently higher in Nunavut, Manitoba, Ontario, and Quebec than it is in the Northwest Territories and Newfoundland and Labrador), inequities in the affordability of food, and a lack of retail competition in small communities. Finally, there is a lack of accountability.

Government of Canada. *Food Mail Review—Interim Report*. Indian and Northern Affairs Canada Devolution and Territorial Relations Branch, Indian and Northern Affairs Canada, 2009.

The Food Mail program was a Government of Canada program that paid part of the shipping costs of nutritious foods and other essential items by air to isolated and northern communities. The communities within Nunatsiavut were listed as the communities eligible for this program. This review was promoted by a 12% increase per year from 1996–2006, due to rising transportation costs and demand. The increase made the current program unsustainable, therefore, the program needed to review the current structure and improve its effectiveness and contain costs. The report has several recommendations including updating the list of eligible foods according to Health Canada guidance, changing entry points to improve efficiency, developing a retailer agreement to improve program visibility and accountability, eliminating personal orders, equalizing shipping rates between provinces and territories for shipping perishable foods, examining the possibility of subsidizing country foods and greenhouses, and examining the viability of redesigning the program as a retail subsidy that would deliver benefits to consumers at the point of purchase.

Wilson, Amanda, Charles Z. Levkoe, Peter André, Kelly Skinner, Andrew Spring, Sonia Wesche, and Tracey Galloway. 2020. "*Strengthening Sustainable Food Systems: Federal Policy Constraints and Potential Opportunities*." *ARCTIC*, 73(3): 292–311.
<https://doi.org/10.14430/arctic70869>

This article identifies federal policy frameworks and policies that can better support community-based initiatives to reduce food insecurity and build sustainable food systems in the north. The authors include Nunatsiavut in their definition of communities in the north. The authors first distinguish between food security and food sovereignty; they suggest that food sovereignty is a promising conceptualization for sustainable food systems and is grounded in self-determination. The policies were identified through asset mapping, a literature review, and community engagement. This study identifies six barriers and challenges for food systems' focus areas and provides a series of policy recommendations to improve sustainable northern food systems. Each of the policy recommendations are categorized by specific goals that include increase country food harvest capacity through training and financial support, increase local food production where viable, increase community and regional fisheries harvest, processing, and storage capacity, increase regional food processing, inspection, storage, and value-added capacity, strengthen distribution networks within and across regions, strengthen transportation links within the North and between the North and South, increase affordability of food and essential food-related items in retail stores, and increase local food harvest and production.

A14. Social change and Inuit in Labrador

The changes in nutrition have been a product of social changes experienced by Labrador Inuit. This section provides an overview of articles focused on this topic.

Hanrahan, Maura. 2008. "Tracing Social Change among the Labrador Inuit and Inuit-Métis." *Food, Culture and Society* 11 (3): 315–333. <https://doi.org/10.2752/175174408X347883>

This article summarizes social change for Labrador Inuit and Inuit Metis. Social change occurred in three phases—disruption, adaptation, and transformation. Through each of these phases, the nutrition literature provided insights into the change. However, it is the last stage of transformation where the greatest changes have occurred. Namely, moving from sustenance-based to wage labour, settlement into communities, and greater reliance on market foods. The effects of the social and nutrition changes have prompted the epidemiologic transition, where the focus of disease has changed mainly from infectious disease to chronic disease due to nutrition transition and changes in lifestyle. The author states Inuit and Inuit-Métis have mixed feelings about the changes.

Natcher, David C, Lawrence Felt, and Andrea Proctor. *Settlement, Subsistence and Change Among the Labrador Inuit: The Nunatsiavummiut Experience*, University of Manitoba Press, 2012.

This book provides an overview of the change in settlement among the Labrador Inuit. Topics include changes in settlement areas, housing, and governance. There is also a distinct focus on the impact of these social changes on the dietary intake of the Labrador Inuit. Finally, the latter chapters focus on contemporary issues facing Labrador Inuit such as land use and adapting to the impacts of climate change. While food security is not specifically discussed in this book, factors that impact food security such as land use and climate change are discussed and are relevant to the overall considerations for improving food security for Labrador Inuit.

Appendix B: University of Ottawa research ethics approval

12/11/2019

Université d'Ottawa

Bureau d'éthique et d'intégrité de la recherche

University of Ottawa

Office of Research Ethics and Integrity

CERTIFICAT D'APPROBATION ÉTHIQUE | CERTIFICATE OF ETHICS APPROVAL

Numéro du dossier / Ethics File Number	H-12-18-1901
Titre du projet / Project Title	Food security in Nunatsiavut: What is the role of policy?
Type de projet / Project Type	Thèse de doctorat / Doctoral thesis
Statut du projet / Project Status	Renouvelé / Renewed
Date d'approbation (jj/mm/aaaa) / Approval Date (dd/mm/yyyy)	12/11/2019
Date d'expiration (jj/mm/aaaa) / Expiry Date (dd/mm/yyyy)	13/01/2021

Équipe de recherche / Research Team

Chercheur / Researcher	Affiliation	Role
Renee BOWERS	École interdisciplinaire des sciences de la santé / Interdisciplinary School of Health Sciences	Chercheur Principal / Principal Investigator
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Appendix C: Nunatsiavut Government research ethics approval



March 12, 2020

NGRAC-21431201

Re: Food Security in Nunatsiavut: From historical perspectives to future prospects

Dear Renee,

Please accept this letter as confirmation of the Nunatsiavut Government Research Advisory Committee's (NGRAC) approval of the above research as outlined in your application, subject to the following conditions:

1. The Committee would like to see the language in the consent form made more accessible. We can provide specific feedback. You can also adapt the template consent form provided by the NGRAC.
2. The Committee has requested additional information on how you will select participants.
3. Please ensure you share information about the project with the food security team. Please also continue to take direction from the regional advisory committee and in particular.
4. Please provide copies of any reports, journal articles, papers, posters or other publications related to this project to Carla Pamak, the Nunatsiavut Inuit Research Advisor, upon completion of your work. A plain language summary detailing the work, translated into Labrador Inuktitut, should also be provided. Please also include an acknowledgment of Labrador Inuit Lands in any publications or presentations that result from your work.

Please note that any changes to your proposal must be reviewed by the NGRAC before they are implemented. Any secondary uses of data collected through this research, not included in the original application, must be reviewed by the NGRAC. This approval is valid for one year from today.

Sincerely,

Appendix D: Participant invitation letter

(Insert Date)

Dear xx,

My name is Renee Bowers, and I am a PhD candidate in Population Health with the University of Ottawa. I am completing a research project on policies that pertain to food security in Nunatsiavut. This research project has received ethics approval from both the University of Ottawa H-12-18-1901 and the Nunatsiavut Government Research Centre. There is also a Nunatsiavut Government Advisory Group for this research project.

You have been identified as a potential participant for a key informant interview through a review of the literature and/or in discussions with representatives of the Nunatsiavut Government. The purpose of the key informant interview is to discuss food security policy in Nunatsiavut. If you would like to participate, you can indicate your interest by checking one of the responses at the end of this letter. If you indicate that you would like to participate, a consent form will be sent for review and signature. After this has been completed, I will send a copy of the questions ahead of time.

The interview will take place at a time and location that is convenient for you. It is anticipated the interview will be one hour (60 minutes). All responses are confidential, and all possible mechanisms will be undertaken to ensure you will not be identified in the study findings. Also, if you initially agree and choose to withdraw at a later date, any correspondence or input will not be included in the future study. Finally, there will be no honorariums provided for participation in this study.

If you are interested in participating, please respond to me either via email at xxx or you can return this letter to me at the above address. Again, please check yes or no as noted on the bottom of the letter and return to me by *(insert date)*.

With kind regards, Renee

Please check one of the following:

___ **Yes**, I would like to participate ___ **No**, I do not want to participate

Appendix E: Participant consent form

Title of the study: Food security in Nunatsiavut: From historical perspectives to future prospects

Name of researcher: Renee Bowers, PhD candidate in Population Health, Faculty of Health Sciences, University of Ottawa.

Supervisor: Lise Dubois, Full Professor, School of Epidemiology and Public Health, Faculty of Medicine, University of Ottawa.

Invitation to participate: You are invited to participate in the above mentioned research study conducted by Renee Bowers. This research study is being conducted as part of a PhD thesis with the Population Health program at the University of Ottawa. There is no external funding for this study.

Purpose of the study: This research project is focused on Nunatsiavut, Labrador. The project will firstly seek to understand policy maker's perspectives on the policy they are developing or implementing; secondly, to understand the strength of the connection between the policy actor or their department/organization and the Nunatsiavut Government.

Participation: Your participation will consist of a key informant interview. Prior to the interview, the research questions will be sent to you. If you are not comfortable with any question, you do not have to answer.

If you grant permission, the interview will be recorded to assist with documenting your responses. Later in this form, you can indicate if you grant your permission to record the interview.

After the interview is completed, you will be sent a written transcript of the questions and your responses. You can make any additional changes to the written transcript to ensure it reflects your perspective.

The interview will be about 1 hour, and you can withdraw at any time. The interview will be scheduled at your convenience and will involve you answering questions and providing any additional information that you feel is required.

Given the current COVID-19 restrictions, we can discuss the best way to complete this interview. There are options such as Skype, Zoom or a teleconference.

Risks: Your participation will consist of giving your opinion and representing your organization. There is a risk that the information may be sensitive and/or political. The researcher will make every effort to minimize this risk and ensure your confidentiality. These efforts will include anonymizing the information, not using any direct quotes that could be linked to the participant, and not identifying the participant.

Benefits: Your participation in this study will contribute to advancing efforts for food security within Nunatsiavut. Food security has been identified as a distinct Inuit determinant of health and an issue for Inuit living in the communities within Nunatsiavut.

Confidentiality and anonymity: The researcher has assured me that any shared information will remain strictly confidential. I understand the contents will only be used for this research study. My confidentiality is protected through using pseudo names for any transcripts. Also, no references will be made to my name

or position in the data. My participation will not be discussed with any advisory group members or any beneficiaries of the Nunatsiavut land claim area.

If data is collected via email or any other electronic form, I will use standard safety measures such as signing out of my account, closing my browser, and locking my screen or device when I am no longer using them. This will lower the risk of security breaches and help to ensure my confidentiality.

Anonymity: Actions will be taken to protect the interviewees' anonymity. These will include not sharing the names of confirmed interview participants with members of the advisory group, giving interviewees a pseudonym, and not stating the names of participants in publications.

Conservation of data: The collected data will be stored in a secure setting. Electronic data will be stored using a password-protected and encrypted file. Hard copies of notes and transcripts will be stored in a locked cabinet. The room with the locked cabinet that will only be accessed by the researcher and the room will have a locked door. It will be stored for five years after the duration of the study. A copy will also be kept at the University of Ottawa campus for the full period of retention. Anonymized data can also be shared, upon request, with the Nunatsiavut Government for potential use in future projects or activities. Any future use of data will be in line with the original intent of this project.

Compensation: Compensation will not be provided. This will ensure participants who are government representatives are not placed in a potential conflict with their organizational code of conduct.

Voluntary participation: You are under no obligation to participate. If you choose to participate, you can withdraw from the study at any time and/or refuse to answer any questions. If you choose to withdraw, all data gathered until the time of withdrawal will be destroyed and will not be used for research purposes.

I agree to have the interview recorded: __yes __no

Acceptance: I, _____, agree to participate in the research study conducted by Renee Bowers of the Population Health Program, Health Sciences, University of Ottawa, which research is under the supervision of Dr. Lise Dubois.

If I have any questions about the study, I may contact the researcher or her supervisor.

If I have any questions regarding the ethical conduct of this study, I may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5 Tel: (613) 562-5387 Email: ethics@uottawa.ca

There are two copies of the consent form, one of which is mine to keep.

Participant's signature: _____ Date: _____

Researcher's signature: _____ Date: _____