

Understanding Public Health Nurses' Engagement in Work to Address Food Insecurity

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Abstract

Background: Access to safe and nutritious food is a universal right, which is essential for well-being. Food security exists when “all people at all times have physical and economic access to sufficient, safe, and nutritious foods to meet their dietary needs and food preferences for an active and healthy life”. Despite a call by global leaders to ensure food security and eradicate food insecurity, food insecurity remains a serious public health concern in Canada. While public health nurses are ideally situated to advance this public health priority, they have been conspicuously absent from important research and decision-making tables where work to address these inequities take place. This is the impetus for this study.

Purpose: To explore how public health nurses engage in work to address food insecurity. The study uncovers the dynamic interplay of structures, processes, and agency that enable and constrain public health nurses work. An understanding of the sociopolitical contexts of public health helps to strengthen public health nurses’ engagement in food insecurity thereby contributing to health equity in Canada.

Methodology: A holistic qualitative case study approach informed by the tenets of critical realism was used to guide this study in Nova Scotia. Primary data sources were 19 individual interviews and a review of 33 documents. Data were transcribed verbatim. Data analysis was guided by Framework Analysis and matrix construction. The trustworthiness of data was ensured through Lincoln and Guba’s criteria for qualitative studies.

Findings: Four major themes include: 1) Framing Food (In)Security, 2) The Role of Public Health Nurses; 3) Navigating the Terrain of Food Insecurity; and 4) Resources to Advance Food Insecurity Work in Public Health Nursing Practice.

Discussion and Implications: The dynamic interplay among leaders with differing ideologies and organizational culture has an impact on health equity agendas and subsequently on public health nursing engagement in work to address food insecurity. Capitalizing on a “clash of cultures” is associated with effective community food security outcomes. We must continue to illuminate the tensions among public health nurses and other stakeholders as well as address issues of power relations both within and external to the public health system.

Conclusion: Public health may benefit greatly from building capacity of public health nurses’ to engage in both upstream and downstream food insecurity work.

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Glossary of Terms

Analytical dualism – the need to maintain a separation between agency and structure in order to examine the interrelationships that shape each.

Critical Realism – Critical realism is a philosophical perspective that has emerged in nursing as an alternative to the extremes of realism and relativism. Taking a middle ground, critical realists believe that social reality exists in the form of underlying structures that include observable and less tacit forms of influence. Social reality is created through interactions with agency and thus reflects a point in time that changes over time depending on the context. A critical realist approach confronts complexity and acknowledges the importance of both agency and structural factors with the interest of explaining ‘how’ and ‘why’, which leads to attempts to discover the powers at play at various levels of reality.

Community food security - when all community residents have access to a culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance and social justice. As a holistic, systems approach to food security, community food security brings together the themes of anti-hunger and sustainable agriculture, uniting availability and production with access and consumption.

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

Food insecurity – when there is a limited or uncertain ability to acquire sufficient, safe, and nutritious foods in socially acceptable ways to meet dietary needs and food preferences for an active and healthy life in a way that maintains a sustainable food system that maximizes community self-reliance and social justice.

Food sovereignty – the right of nations and peoples to control their own food systems, including their own markets, production modes, food cultures and environments. It puts the aspirations, needs, and livelihoods of those who produce, distribute, and consume food at the heart of food systems and policies rather than the demands of markets and corporations.

Food system – refers to the full range of activities that extend from field to table including farm production, food processing, wholesale and retail distribution, marketing and consumption, and disposal and composting.

Institutional theory – proposes how resilient aspects of social structures and processes influence individual decisions and considers the processes by which structures including schemas, rules, norms, and routines are repeated, given similar meaning, and widely accepted.

Intransitive domain – the objects of science in the sense of the things we study, including social structures and processes, which exist and operate independently of human beings and their ability to perceive it.

Judgmental rationalism – describes the distinction between the intransitive and the transitive domains demonstrating that the world cannot be conflated with our experience of it. Distinguishing the dimension of ontology from that of epistemology is essential if there are to be shared reference points for making rational judgments between alternative theories. If the distinction between ontology and epistemology is not upheld, the idea of a rational choice between incommensurable theories will render problematic and will encourage skepticism about the existence of a theory-independent world.

Minimum wage (Nova Scotia) - The lowest rate of hourly pay legally allowed in Nova Scotia (NS). As of April 1, 2018, it is \$11.00 per hour for experienced employees and at least \$10.50 per hour for inexperienced employees. This applies to employees working 48 hours or fewer per week.

Modes of reflexivity – act as the bridge between agency and the broader structural and institutional contexts effectively mediating deliberately between the objective and structural opportunities confronted by different groups and the nature of people’s objectively defined concerns.

Processes – are not tacit and include human behaviors, laws, policies, and culture.

Public health nurse – a registered nurse who uses knowledge from nursing, social science, and public health in an effort to promote, protect, and preserve the health and well-being of individuals, families, and populations through collaborative efforts.

Reflexivity theory – describes how different ‘modes of reflexivity’ illuminate internal conversations and level of intentionality exercised by individuals that lead to collisions with existing structures and thus the potential for change.

Stratification - derives from the answer to an overarching question posed by critical realists, which marks their starting point for knowledge production: what must reality be like to make the existence of science possible? The belief that underlying structures that are real and have processes that produce events, which may or may not be empirically observable, necessitates investigations into their structures to understand how these objects come to have their events and under what conditions produce them. These underlying structures and processes are as real as the observable effects and outcomes they cause.

Structures – refer to the infrastructure (such as its information systems and human resources) of public health units, government, civil society, and private sector organizations.

Transfactuality – concerns the conceptualization of causation and provides the ontological foundation upon which social phenomena (real events) can be studied irrespective of outcomes.

Transitive domain – refers to the nature of knowledge gained about intransitive entities, which are constantly subject to reinterpretation and revision, and includes theories, paradigms, and meaning produced by human activity.

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List of Abbreviations

ACT for CFS	Activating Change Together for Community Food Security
AFSC	Antigonish Food Security Coalition
ASTDN	Association of State & Territorial Directors of Nursing
BC	British Columbia
CBDHA	Cape Breton District Health Authority
CCHS	Canadian Community Health Survey
CHB	Community Health Board
CHNC	Community Health Nurses of Canada
CNA	Canadian Nurses Association
CPHA	Canadian Public Health Association
DHA	District Health Authority
FAO	Food and Agriculture Organization
FoodARC	Food Action Resource Centre
GASHA	Guysborough Antigonish Strait Health Authority
HEART	Health Equity Action Resource Team
ICN	International Council of Nurses
NCCDH	National Collaborating Centre for Determinants of Health
NGO	Nongovernmental Organization
NS	Nova Scotia
NS DHW	Nova Scotia Department of Health and Wellness
NSHA	Nova Scotia Health Authority
PHN	Public Health Nurse

PHU	Public Health Unit
PFC	Participatory Food Costing
REB	Research Ethics Board
SDH	Social Determinants of Health
UN	United Nations
WHO	World Health Organization
WTO	World Trade Organization

Chapter One : Introduction

This dissertation describes a critical realist case study research project that explored how PHNs' comprehend and engage in addressing food insecurity. In chapter one, I identify the research problem, followed by a description of the research purpose and objectives. I finish this chapter with a description of my position as the researcher. In chapter two I offer a preliminary literature review, exploring current evidence specific to food insecurity and the PHN role. I also provide relevant theories and describe a conceptual model that guided the research study. The philosophical underpinnings that informed the study are described in chapter three, followed by the case study methodology in chapter four. In chapter five, study findings are related to four overarching themes that emerged from the case study. An in-depth discussion in chapter six situates the voice of study participants within current evidence on PHN practice as well as drawing implications. I complete this dissertation by offering recommendations to strengthen PHNs' engagement in work to address food insecurity.

1.1 Background

Access to safe and nutritious food is a universal right (Food & Agriculture Organization [FAO], 2018; United Nations [UN], 1948) and is essential to individual and societal health, social, and economic interests (Canadian Nurses Association [CNA], 2012; Tarasuk, Mitchell, & Dachner, 2016; UN, 1948). Food security exists when “all people at all times have physical and economic access to sufficient, safe, and nutritious foods to meet their dietary needs and food preferences for an active and healthy life” (FAO, 1996, p. 1). Despite calls by global leaders to ensure food security and eradicate food insecurity (i.e., a limited or uncertain ability to acquire acceptable and nutritious foods in socially acceptable ways), food insecurity remains one of the

most serious public health concerns around the world; Canada is no exception (Fontell & Luchsinger, 2011; Tarasuk et al., 2016).

Since 2005, rates of food insecurity have persisted or grown in almost every Canadian province and territory (Tarasuk et al. 2016), with 13% of Canadian households experiencing some level of food insecurity (Tarasuk, Mitchell, & Dachner, 2014b). Nova Scotians are particularly vulnerable to food insecurity with at least 18.4% of Nova Scotians experiencing food insecurity, which is the highest provincial rate in Canada (Tarasuk et al., 2016). This actual prevalence is conceivably greater given Indigenous peoples living on reserve, people who cannot read or speak English or French, or individuals who are homeless are not represented in the *Canadian Community Health Survey* ([CCHS]; Tarasuk et al., 2014b). The exclusion of these population groups is problematic because they are populations that have been identified as being particularly vulnerable to living with food insecurity (Tarasuk et al., 2016). The prevalence of food insecurity may be further underestimated, as the main component of the tool used for scoring and classifying food insecurity status in Canada only focuses on the limited financial ability to acquire food, or food access (Ashby et al., 2017). Focusing on those who have a lack of economic resources to access food, likely identifies only those households experiencing more severe levels of food insecurity (Ashby et al., 2017). Thus, households experiencing stress related to accessing food, and may be altering the quantity and/or quality of foods as coping mechanism — and as such are not actually running out of food — may also be failing to be identified (Ashby et al., 2016; Nolan, Williams, Rikard-Bell, & Mohsin, 2006).

Structural determinants leave certain groups vulnerable to food insecurity (MacRae, 2011; Sriram & Tarasuk, 2015). Structural determinants are the socio-political context, created by labor laws, health, education, and housing policies that contribute to socioeconomic position

as well as cultural and social understanding of food security. Socioeconomic position is also a structural determinant and includes social class, gender, ethnicity, education, income, and employment status. In turn, these structural determinants significantly influence intermediary determinants such as access to food, stress, and individual knowledge and skills (FAO, 1996; MacRae, 2011; Solar & Irwin, 2010). Together the interplay between these determinants leads to vulnerability to compromising conditions that contribute to food insecurity (Figure 1.1). Given that sources of food insecurity are linked to modifiable structural determinants, a lack of access to safe and affordable food is an issue of health inequity (Falk-Rafael & Betker, 2012). Health inequity is the presence of a difference in health status that is unfair and avoidable and arises from the organization of political, social, and economic aspects of society (CNA, 2012).

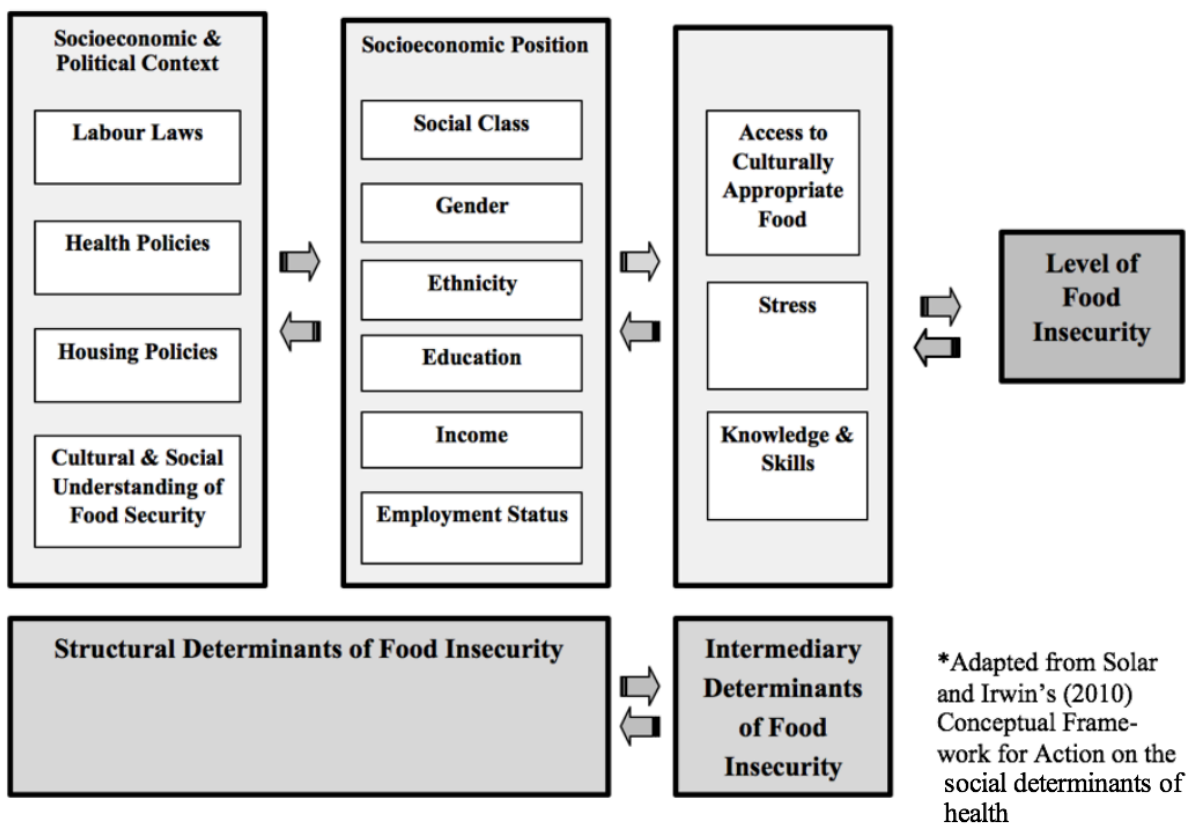


Figure 1.1: Interplay of determinants of food insecurity

The inability to meet basic food requirements has substantive health and societal consequences (McIntyre, 2003; McIntyre, Patterson, Anderson, & Mah, 2016b). Individuals living with food insecurity have a higher prevalence of micronutrient deficiencies, undernutrition, food-related chronic disease such as diabetes, heart disease and obesity, stress, and depression (Anjos et al., 2013; Gucciardi, Vogt, DeMelo, & Stewart, 2009; Kirkpatrick & Tarasuk, 2008). Children in households suffering from food insecurity are more likely to have cognitive and behavioural problems and have lower IQ scores (Anjos et al., 2013; Dubois et al., 2011). Household food insecurity status, independent of other well-established SDH, leads to increased health care utilization with an estimated 76% higher cost to public funds (Fitzpatrick et al., 2015; Tarasuk et al., 2015) being associated with severe food insecurity. In addition, food insecurity issues are well documented to have the potential to threaten health and advance human disease through the consumption of contaminated food (e.g., antibiotic and pesticide use in the production of food [Mie et al., 2017] or food-borne microbial illness [World Health Organization [WHO], 2015]), the compromise of socio-cultural aspects of food (e.g., value of family mealtime [Neumark-Sztainer, Story, Croll, & Perry, 2003]), and the contamination or deterioration of ecosystem, land, water, and air through destructive and ecologically unsustainable production and distribution practices (Allen, 2004). These conditions inevitably have a significant cost to society (CNA, 2012). Thus, public health nurses (PHNs) have an obligation and are well positioned to initiate collaborative efforts to address health inequities, such as food insecurity.

1.2 Statement of the Problem

In 2008, the WHO released a report on the Commission on Social Determinants of Health (SDH), posing the challenge to improve the political, social, and economic conditions that perpetuate health inequities. The public health sector, in particular, were identified as assuming a

leadership role in this endeavour (Standing Senate Committee on Social Affairs Science and Technology, 2009). In his inaugural report, the chief public health officer stated that the goal of public health programs was to improve population health and societal well-being through collaborative efforts that address inequities and the root causes of poor health (Standing Senate Committee on Social Affairs Science and Technology, 2009).

The interconnectedness of food and health, in terms of both food safety (i.e., pathogens) and nutrition, supports a role for public health in addressing food insecurity (Canada, 1998). Addressing food insecurity in Canada has historically been undertaken in public health by public health dietitians and nutritionists (Canadian Dietetic Association, 1991; Davis, Katamay, Desjardins, Sterken, & Pattillo, 1991). Recently, PHNs have been identified as important stakeholders in assuming a role in addressing food insecurity based on the premise that PHNs are obligated to serve as social change agents, to address the SDH, and reduce social and health inequities (CNA, 2012; Community Health Nurses of Canada [CHNC], 2011; Canadian Public Health Association [CPHA], 2010; Falk-Rafael & Betker, 2012; Muntaner et al., 2012; Nova Scotia Health Authority [NSHA], 2015). PHNs use knowledge from nursing, social science, and public health to promote, protect, and preserve the health and well-being of individuals, families, and populations through collaborative efforts (CHNC, 2011; NSHA, 2015). PHNs have been called to action in the search for solutions to food insecurity in partnership with other stakeholders due to their knowledge of community, understanding of human experiences, ability to provide a voice for vulnerable populations, deep understanding of the SDH, and experience working in interdisciplinary teams (Ballou, 2000; CPHA, 2010; Drimie & MacLachlan, 2013). Despite being ideally situated to advance this public health priority, PHNs have been conspicuously absent from decision-making tables where work to address health inequities, such

as food insecurity are prioritized and interventions determined (Khoury, Blizzard, Moore, & Hassmiller, 2011; Sharriff, 2014). PHNs' engagement in work to address food insecurity is also absent from empirical literature and this is the impetus for a timely and critical exploration of how PHNs engage in work to address food insecurity.

1.3 Research Purpose

This research study aimed to address the gap in understanding of how PHNs engage in work to address food insecurity while strengthening the capacity of PHNs' engagement at multiple levels. Uncovering the dynamic interplay of structures, processes, and agency that enable and constrain PHNs' work allowed me to begin to identify ways to strengthen PHNs' efforts to address food insecurity as a strategy to increase health equity work in Canada.

1.4 Research Objectives

This research has the following objectives:

- To describe PHNs' understanding of food (in)security.
- To identify how PHNs' are addressing food insecurity.
- To examine the perspectives of other stakeholders (i.e., non-PHNs) involved in addressing food insecurity in the context of PHNs' work.
- To identify enablers for PHNs' engagement in work to address food insecurity.
- To identify barriers that may constrain PHNs' efforts to address food insecurity.

1.5 Significance of Research

With statistics that suggest almost one in eight families struggle with food insecurity (Tarasuk et al., 2014b), it is clear that nurses in all areas of practice will encounter individuals, families, and communities that have insufficient access or ability to acquire healthy, culturally

appropriate foods. Yet without adequate knowledge of this phenomenon or with limited nursing literature to guide our practice, nurses may find their confidence in engaging in work to address food insecurity with clients and communities lacking.

This research contributes new knowledge in an understudied area about the nature and scope of PHNs' engagement in work to address food insecurity in Nova Scotia (NS), particularly within a rural context. New understanding has been gained about the prevailing structures, processes, and agents that influence efforts of PHNs to address food insecurity within their organizational and municipal contexts. The insights gained inform actionable recommendations for enhanced intra-sectoral and cross-sectoral PHN engagement in efforts to improve food security. Research conducted in NS will be of interest to other multi-stakeholder teams working on advancing food security. This work may also be valuable to others working in rural contexts.

1.6 Situating the Researcher

I have a long-standing interest with issues regarding food security and health equities. As an undergraduate student, I volunteered at food banks and community programs for teaching eating and activity management for families. Through these volunteer experiences, I developed a particular interest in addressing inequities and food insecurity. To gain further knowledge and experience at the global level, I participated in service-learning projects in Cuba and Guatemala. These experiences focused on sustainable environments, food security, genocide, and fair trade. These experiences inspired my decision to complete an undergraduate Advanced Major Thesis that investigated structures and policies that prevent access to healthful foods for undergraduate students, recognizing first-hand that many university students struggled with food insecurity. I have continued my desire to address food insecurity by beginning graduate studies. The belief that knowledge creation strengthens understanding of concepts and theory has served as an

impetus for me to examine this understudied area of nursing practice. During my Master's program, I worked on a team of researchers that investigated the role of PHNs in collaborative initiatives to build capacity for policy change to enhance community food security. This project was part of an initiative, Activating Change Together for Community Food Security (ACT for CFS). ACT for CFS is a five-year participatory research project directed by The Food Action Research Center (FoodARC) at Mount Saint Vincent University in collaboration with the National Collaborating Centre for Determinants of Health (NCCDH) that aimed to increase community food security for all Nova Scotians. I assisted the team to develop and pilot a draft interview guide about community food security that assesses the knowledge, practices, and experiences of PHNs in NS. The knowledge and skill gained through that project were instrumental for the successful implementation of this research on food security in public health nursing.

Chapter Two : Literature Review

In this chapter, I review the extensive literature that was generated through a search conducted to examine the existing works on food insecurity in public health nursing. The literature search covered a wide range of food insecurity issues relevant to PHNs' engagement in work to address food insecurity and are presented under the following five themes: (1) *Food Insecurity in Canada*; (2) *Relevance of Food Insecurity to PHN Practice*; (3) *Conceptual Models of Public Health Nursing Practice*; (4) *Relevant Theories to Understand Decision-Making in Complex Contexts*; and (5) *Towards a Conceptual Model for PHNs' Engagement in Work to Address Food Insecurity*.

I begin this chapter with an overview of the search strategy and study selection. I then outline the changes in the framing of food insecurity to food security from a Canadian perspective and present the key terms that highlight the various framings of the issue over time. I provide an overview of implications for those living with food insecurity and highlight the link between food insecurity and physical, mental, social, and emotional well-being and the inciting societal implications of food insecurity. I outline contemporary approaches to addressing food insecurity and provide an overview of the contextual factors influencing the realization of food security in Canada. I then demonstrate the relevance of food insecurity to PHN practice. An overview of conceptual models of public health nursing practice and relevant theories that informed public health nursing practice in the context of addressing food insecurity follows. I complete this chapter with a presentation of a conceptual model highlighting the relationships between key dimensions of food insecurity in the literature. This includes existing conceptual and theoretical models and relevant theories, which served as a starting point for developing this research study.

2.1 Search Strategy

Using a search strategy designed with the assistance of a professional librarian, a literature search was conducted to examine the existing works on food insecurity in public health nursing. Given that there was no return about how PHNs were engaged in work to address food insecurity, the search was expanded to include research that explained how PHNs were engaged in action to address other SDH. In keeping with socio-ecological thinking (Stokols, 1996), multiple interventions across individual practitioner and organizational levels were a focus of the search. These include factors influencing engagement in action to address the SDH. Search terms were divided into three categories to represent the themes I was looking for: PHN search terms, food insecurity search terms, and intervention search terms. Several combinations of search terms were used and altered depending on the database and the items found. See Table 2.1 for a full list of search terms.

Table 2.1: *List of Search Terms*

PHN Search Terms:	“PHN” or “public health nurs*” or “community health nurs*”
Food Insecurity Search Terms:	“food insecurity” or “food security” or “hunger*” or “ food poverty” or “food sovereignty” or “food justice” or “food access” or “inequity” or “social determinant of health”
Intervention Search Terms:	“intervention” or “program” or “initiative” or “program evaluation” or “food security strateg” or “strateg* or “role” or “practice” or “conceptual model” or “theoretical framework”

PHN, public health nurse

A total of four databases of peer reviewed literature were searched including: Cumulative Index to Nursing and Allied Health Literature (CINAHL); Nursing and Allied Health; PubMed; and Scopus. In addition to the database search, a manual search of reference lists was conducted for retrieved articles that were directly related to PHNs’ involvement in addressing SDH. Grey

literature was also searched from websites for Canadian public health organizations, Canadian nursing organizations, and the Canadian government.

Study selection. Each article (academic study or grey literature report) was assessed for inclusion on the following eligibility criteria. First, the article must have been published or made available between 1998 and 2018. This 20-year period included the majority of food insecurity initiatives given *Canada's Action Plan for Food Security* was first released in 1998. Second, the article must have addressed either food insecurity or other well-established SDH in general in developed countries. Third, articles must have addressed interventions broadly defined (including provision of a health service or program, education or training program, media campaign, or policy change) aimed at decreasing food insecurity or addressing the SDH. Factors influencing PHN action to address the SDH were also included. There were no restrictions on research design or evaluation approach. Articles could use quantitative, qualitative or mixed methods approaches. Articles that were not available in English were excluded from the review. The electronic database search of peer-reviewed articles and grey literature searches yielded nine and 14 records, respectively, relevant to my review.

2.2 Food Insecurity in Canada

In this section, I outline the changes in the framing of food insecurity to food security from a Canadian perspective and present the key terms household and individual food insecurity, community food security, and food sovereignty that highlight the various framings of the issue over time. I provide an overview of implications for those living with food insecurity, and I outline contemporary approaches to addressing food insecurity. Lastly, I present the contextual factors influencing the realization of food security in Canada.

2.2.1 Defining and describing food insecurity. There is no singular definition of ‘food insecurity’. However, the concept of food insecurity has evolved and expanded over time to integrate a wide range of food-related issues and to more completely reflect the complexity of the role of food in society (Clay, 2002; FAO, 1996; Hamm & Bellows, 2003). Early definitions of food insecurity focused almost exclusively on the ability of a nation to assure an adequate food supply for its current and projected population (FAO, 1996). The emphasis was on secure access to food for entire populations, with a focus on the role of food as a vehicle for nutrition (Clay, 2002). However, food holds much more significance to humans than just its nutritional value. Food can also have important symbolic, cultural, social, and political roles (Lessa & Rocha, 2012; Morrison, Haldeman, Sudha, Gruber, & Baily, 2007; Sanou, et al., 2013; Vahabi, Damba, Rocha, & Montoya, 2011). With these expanded roles, the definition has shifted to now consider issues related to food availability, accessibility, utilization, and stability, as equally important (Gross, Schoeneberger, Pfeifer, & Preuss, 2000), four dimensions of food security that are still used today (Ashby, Kleve, McKechnie, & Palermo, 2016; FAO, 2016).

Food ‘availability’ addresses the “supply side” of food security (Gross et al., 2000, p. 1). This dimension refers to a reliable, consistent, and socially acceptable means to enough, quality food for an active and healthy life (Gross et al., 2000). Food production and distribution is a key determinant of food availability (Burchi & De Muro, 2016). ‘Accessibility’ acknowledges the resources (economic, physical, social) required to acquire food (Gross et al., 2000). An adequate supply of food at the national or international level does not in itself guarantee food security, thus food access requires food availability to be established before it is achieved (Gross et al., 2000). Adequate ‘utilization’ refers to the sufficient intake of safe food that meets physiological and cultural requirements (Gross et al., 2000). This dimension takes into consideration feeding

practices, food preparation, diversity of the diet, and intra-household distribution of food.

Combined with biological utilization of food consumed determines nutritional status (Ashby et al., 2016). 'Stability' refers to the stability of the other three dimensions over time (Gross et al., 2000). This dimension considers how adverse weather conditions, political instability, or shifts in food prices impact food security status. Thus, food insecurity may occur when access to or availability of safe, culturally appropriate and nutritious foods is compromised, or when food cannot be obtained in a socially acceptable way. The evolution of thinking about food insecurity reflects the attitude that society's goals should reach beyond the ability of a country to produce and import food (Fontell & Luchsinger, 2011; Hamm & Bellows, 2003; Muntaner et al., 2012).

According to McKeown (2006), different concepts of food insecurity differ in the way that their authors answer the following five questions:

- Who should get the food? (*Universality*)
- When? (*Stability*)
- How? (*Dignity*)
- How much food? (*Quantity*)
- What kind of food? (*Quality*)

The way that food insecurity is understood and defined, based on the answers to these questions or components, is critical because it influences the level of analysis of researchers and approaches to addressing food insecurity (Ashby et al., 2016; McKeown, 2006). Accurate measurement of food insecurity is also imperative to understand the magnitude of the issue and to identify specific areas of need, in order to effectively tailor policies and interventions to address it (Ashby et al., 2016; Marques, Reichenheim, de Moraes, Antunes, & Salles-Costa, 2015). The term can be used with a focus on food-related issues on a number of levels, from

individual, household, community, national, and global food security, as well as from a cultural perspective (Power, 2008). Although none of these levels of analysis can be separated from the others, the issues of significance can be very different (McKeown, 2006). The next section will describe the analysis of food (in)security at the household/individual and community levels, outlining the issues of significance at each level, which currently influence approaches to prevent and address food insecurity in Canada.

2.2.1.1 Household and individual food insecurity. A shift in thinking about food insecurity from viewing food as a basic right to including the concept of stability or assured food access as a fundamental component of the right to food resulted in a shift of the level of analysis for food insecurity issues to the households and individuals level (Clay, 2002). Analysis at this level is concerned primarily with the experiences of hunger and experiences of compromises in the quantity and quality of diets (Dietitians of Canada, 2016). In Canada, analysis at the households and individuals level has received much attention to determine the numbers of food insecure individuals and identify factors associated with food insecurity vulnerability (MacRae, 2011), focusing on poverty.

The understanding of the concept of household food insecurity originated with research conducted by Radimer and colleagues (1992), who identified that households experienced four dimensions of food insecurity:

- *Quantitative* (not enough food),
- *Qualitative* (reliance on inexpensive non-nutritious food),
- *Psychological* (anxiety about food supply or stress associated with trying to meet daily food needs), and

- *Social* (having to acquire food through socially unacceptable means such as charitable assistance, buying food on credit, and in some cases, stealing).

The four dimensions of household food insecurity and the aforementioned five conceptual components of food security are linked (McKeown, 2006). The existence of food insecure households is an example of the absence of *universal* access to food by all people. *Psychological* dimensions of food insecurity flow from unstable access. The inability of some households to have *stable* access to the food they need because of resource constraints means parents may experience anxiety (psychological effects) about how to feed themselves as well as their children. Similarly, the goal of access to food by means that respect human *dignity* is sometimes violated for food insecure households who must rely on socially unacceptable ways to meet their basic needs.

2.2.1.2 Community food security. The most recent evolution in the conceptualization of food security has been a shift in focus by many, including many public health authorities, towards a community level focus (Slater, 2007). Community food security definitions have arisen in the last decade in response to the economic, environmental, and social impact that the current dominant food system may have for individuals, households, and communities (Slater, 2007). The assumption is that an understanding of food insecurity and the development of comprehensive strategies to address it can no longer narrowly focus on experience at the individual level but must also address the food system and the role of food production and distribution in creating environments in which the full range of food security goals can be achieved (Andrée, Langille, Clement, Williams, & Norgang, 2016; Seed, Lang, Caraher, & Ostry 2013; Slater, 2007). Food Secure Canada, a civil society organization focused on food security,

outlines sustainable food systems as one of their commitments within their vision and defines them as follows:

A Sustainable Food System: Food in Canada must be produced, harvested (including fishing and other wild food harvest), processed, distributed and consumed in a manner which maintains and enhances the quality of land, air and water for future generations, and in which people are able to earn a living wage in a safe and healthy working environment by harvesting, growing, producing, processing, handling, retailing and serving food (Food Secure Canada, 2006, p. 10).

The promotion of local food consumption as part of the solution to food sustainability issues and as a booster of local economies is central to the discourse (Allen, 2004).

While the household and individual levels focus on hunger and individual and household “access” to food, community food security focuses on sustainable food systems and the current and future “availability” of a safe and healthy food supply. Community food security focuses on the food system and labels the dominant food system¹ as dysfunctional and unsustainable. As evidence, Lang and Heasman (2015) point to issues of food safety (e.g. Bovine Spongiform Encephalopathy [BSE], Escherichia coli); food contamination (e.g. pesticides, hormones); ecological concerns (e.g. soil loss and degradation); loss of biodiversity; threats from technology misuse (e.g. genetically modified foods); environmental pollution (e.g. agricultural runoff into water supplies, CO₂ emissions from extended transportation of food); and animal welfare (e.g. factory farming). Community food security not only stresses sustainability of food systems but also expands to issues of social justice, self-reliance and community economic development, including an emphasis on organization and cooperation among players in local or regional food systems (Andrée et al., 2016; Hamm, 2009; Seed et al., 2013). Household food insecurity is an essential part of community food security because ensuring everyone can access healthy and

¹ Lang and Heasman (2015) describe the dominant food system as the “productionist paradigm,” characterized by concentrated industrial production and mass distribution of foodstuff.

affordable food goes hand in hand with building healthy, just and sustainable food systems (Voices for Food Security in Nova Scotia, 2017). Community food security considers whether and how households have access to enough healthy food as well as how that food is made and accessed (Hamm & Bellows, 2003).

2.2.1.3 Food sovereignty. Food sovereignty is a related term that has been described as “a precondition to genuine food security” (Patel, 2009, p. 665) recognizing the political and economic power in the food system is to the neoliberal model favouring market forces over health equity (Wittman et al., 2011). The term food sovereignty emerged in response to threats posed to small-scale agriculture resulting from the creation of the World Trade Organization (WTO) that included deregulation (no protection for local companies), privatization (allowing seed patents and selling public lands), and free trade that favours the global north that resulted in fewer trade barriers. One result of the WTO was reduced food prices and cheaper imports that undermined domestic markets, placing local farmers more at risk of food insecurity (Blouin et al., 2009).

Food sovereignty speaks to our right to control our own food systems, including markets, ways of producing food, food cultures, and food environments (Voices for Food Security in Nova Scotia, 2017). Thus, food sovereignty is concerned with the removal of agriculture from the international trade system and promotes expanding democracy to regenerate local, autonomous, healthy and ecologically sound food systems (Wittman et al., 2011). Food systems must respect the right of people to decent working conditions and incomes and putting aspirations, needs and livelihoods of those who produce, distribute and consume food at the heart of food systems and policies rather than the demands of markets and corporations (Blouin, Lemay, Konforti, Imai, & Ashraf, 2009; Pimbert, 2010).

Assurance of food sovereignty is especially pertinent to Indigenous Peoples, with access to lands and resources for acquiring traditional foods, as well as improved access to more affordable and healthier store-bought or market foods in First Nations reserves and northern and remote communities (Huet, Rosol, & Egeland, 2012; Martens, Cidro, Hart, & McLachlan, 2016; Power, 2008). Indigenous food sovereignty also requires the maintenance of an ecologically-grounded food system that “recognizes the ways in which the ability to grow healthy food directly connected to maintaining the health and integrity of neighbouring Indigenous ecosystems” (Morrison, 2011, p. 99), against social and economic marginalization. Additionally, the *Indigenous Food Systems Network* asserts that food sovereignty is fundamentally achieved by “upholding our long-standing sacred responsibilities to nurture healthy, interdependent relationships with the land, plants, and animals that provide us with food” (Morrison, 2011, p. 100).

2.2.2 Food insecurity and health. The inability to meet basic food requirements compromises individual health and well-being, which have societal consequences (Dietitians of Canada, 2016; McIntyre, 2003). In this section I highlight what makes food insecurity such an important topic in public health. It will show the link between food insecurity and physical, mental, social, and emotional well-being and the inciting societal implications of food insecurity.

2.2.2.1 Physical health. Individuals living with food insecurity have a higher prevalence of micronutrient deficiencies, malnutrition, stress, depression, and food-related chronic diseases such as, diabetes, heart disease and obesity (Anjos et al., 2013; Gucciardi, Vogt, DeMelo, & Stewart, 2009; Heflin, Siefert, & Williams, 2005; Kirkpatrick & Tarasuk, 2008; Seligman, Laraia, & Kushel, 2010; Tarasuk et al., 2013). The association between food insecurity and health appears to be a gradient, with adults in more severely food-insecure households more

likely to report chronic health conditions (Muldoon, Duff, Fielden, & Anema, 2013; Seligman, Bindman, Vittinghoff, Kanaya, & Kushel, 2007; Whitaker, Phillips, & Orzol, 2006) and to receive diagnoses of multiple conditions (Tarasuk et al., 2013). Household food insecurity has been shown to diminish adults' functional health (Nakhaie & Arnold, 2010), pose barriers to self-care for those with chronic conditions (Anema et al., 2013; Seligman, Jacobs, Lopez, Tschann, & Fernandez, 2012; Nelson, Cunningham, Andersen, Harrison, & Gelberg, 2001; Seligman, Davis, Schillinger, & Wolf, 2010; Tarasuk et al., 2015), increase the probability that the person will become high-cost users of health care (Fitzpatrick et al., 2015) and heighten the risk of negative disease outcomes (Anema et al., 2013; Ford, 2013).

2.2.2.2 Mental health. The extreme levels of material deprivation associated with household food insecurity, and severe food insecurity in particular, have been associated with higher levels of stress (Davison, Marshall-Fabien, & Tecson, 2015; Jessiman-Perreault, & McIntyre, 2017; Laraia, Siega-Riz, Gundersen, & Dole, 2006; Muldoon et al., 2013). A preoccupation with acquiring food resources by engaging in activities such as borrowing money, selling possessions or stealing led to increased feelings of anxiety, loss of control, family dysfunction, and psychological impairment (Muldoon et al., 2013). The psychological stress associated with food insecurity on an ongoing basis may increase the risk of depression, particularly for lone-parent mothers who are more likely to report poorer mental health than married or partnered mothers (Maclean, Glynn, & Ansara, 2003; Muldoon et al., 2013; Tarasuk et al., 2015). Individuals in food insufficient households were 3.5 times more likely to report major depression than those in food sufficient homes (Vozoris & Tarasuk, 2003). Children in households suffering from food insecurity are more likely to have cognitive and behavioural problems and have lower IQ scores (Anjos et al., 2013; Dubois et al., 2011). Belsky and

colleagues (2010) found that children from food-insecure households were two times more likely to experience persistent symptoms of hyperactivity/inattention than children who are not food insecure. The negative association between food insecurity and lower academic achievement has been observed in children in pre-school (Kimbrow & Denney, 2015), grade-school (Faight, Williams, Willows, Ashbridge, & Veugelers, 2017; Kimbro & Denney, 2015), as well as university students (Farahbakhsh, et al., 2017) who are experiencing food insecurity.

2.2.2.3 Social context of food insecurity and health. Food acquisition strategies that include engaging in activities such as borrowing money, selling possessions or stealing amid resource deprivation can carry a social stigma (Muldoon et al., 2013). In a participatory action research study conducted in NS, stigma, judgment, humiliation, powerlessness, and stress accompanied the use of community-based emergency food assistance programs, and as a result, many people in need did not or are reluctant to use these programs (ACT for CFS, 2014; Williams et al., 2012b; Williams, McIntyre, & Glanville, 2010). Food insecure parents of young children surveyed by the Regina Qu'Appelle Health Region reported that the strategies they often used to feed their children, such as using food banks or borrowing money or food, "made them feel bad, embarrassed, guilty, or depressed" (Berenbaum & Misskey, 2003). Consequently, it was often difficult for these parents to approach family or friends or to use services as such as a food bank.

Feelings of shame or embarrassment about not being able to feed oneself or one's children can promote a sense of social exclusion, a feeling of isolation from one's neighbours and the community at large (ACT for CFS, 2014). Tarasuk (2001) found that women seeking charitable food assistance in Toronto were almost six times more likely to report feeling isolated and alone if they also reported food insecurity with hunger over the previous 12 months. Martin

and colleagues (2004) found evidence that the absence of a social network is associated with household food insecurity. Feelings of isolation further exacerbate the struggle to meet basic food needs by self-limiting non-monetary means of acquiring food, such as asking friends or neighbours for help (Martin, Rogers, Cook, & Joseph, 2004).

2.2.2.4 Food insecurity and public health. Food insecurity poses a risk, not only to individuals and households but also to the community and society or public at large (Fitzpatrick et al., 2015; Tarasuk et al., 2015). In childhood, the impact of living with food insecurity is associated with detrimental impacts on healthy development. Thus, academic success may be negatively affected, allowing poverty and consequent food insecurity to persist into subsequent generations (Roustit, Hamelin, Grillo, Martin, & Chauvin, 2010). For adults, living with food insecurity has been associated with a loss of productivity such as absenteeism at work (Anjos et al., 2013).

Food brings people and families together and gives them a sense of culture, history, and identity (ACT for CFS, 2014). The increasing disconnects from food in communities in NS increased the risk of losing important skills, capacity and knowledge related to food production, harvesting, and preparation (ACT for CFS, 2014).

Food insecurity also has economic costs to society. Household food insecurity status, independent of other well-established SDH, leads to increased health care utilization and costs (Fitzpatrick et al., 2015; Tarasuk et al., 2015), with 76% higher cost to public funds associated with severe food insecurity (Tarasuk et al., 2015). Potential health threats and the advancement of human disease through the consumption of contaminated food, (e.g., antibiotic and pesticide use in the production of food [Mie et al., 2017] or food-borne microbial illness [WHO, 2015]), the compromise of socio-cultural aspects of food (e.g., value of family mealtime [Neumark-

Sztainer, Story, Croll, & Perry, 2003]), and the contamination or deterioration of ecosystem, land, water, and air through poor production and distribution practices (Allen, 2004) are well documented in the literature. These conditions inevitably have a significant cost to society (CNA, 2012).

2.2.3 Approaches to addressing food insecurity. In developed countries, such as Canada and the United States, community food security has become a key working model for addressing food insecurity (McCullum, Desjardins, Kraak, Ladipo, & Costello, 2005; Nova Scotia Department of Health and Wellness [NS DHW], 2013; Slater, 2007). Community food security implies work at a regional level and incorporates a holistic, systems approach to address food insecurity, bringing together themes of anti-hunger and sustainable agriculture, uniting availability and production with access and consumption (Slater 2007; Voices for Community Food Security, 2017). Community food security also views the food system through a community lens, focusing on community engagement and self-reliance (Hamm & Bellows, 2003). Framing food insecurity from a systems perspective implicates that initiatives occur at a societal level, and recognizes food insecurity as an environmental, social justice, and chronic disease prevention issue (NS DHW, 2013). Increased environmental, social, and economic sustainability within the food system is a prerequisite for achieving community food security (Andrée et al., 2016). Moreover, given the structural and intermediary determinants of food insecurity (e.g., access to food, individual capacity outlined in Table 1.1), comprehensive strategies are needed to realize community food security.

The Continuum of Community Food Security Strategies, as seen below in Table 2.2 (Dietitians of Canada, 2016; Food Security Projects of Nova Scotia Nutrition Council and Atlantic Health Promotion Research Centre, 2005; Kalina, 2001; McCullum et al., 2005),

outlines a broad scope of community food security strategies, which has been used to frame community food security in Canada (McCullum et al., 2005). The continuum provides a strategic path for interventions to address such determinants and can lead to effective and sustainable actions for community food security (FoodARC, 2017; MacRae, 2011; Seed et al., 2013).

Table 2.2: *The Continuum of Community Food Security Strategies*

Stage 1	Stage 2	Stage 3
Efficiency strategies (individual-focused)	Participatory/Transitional strategies (community-focused)	System Redesign Strategies (Government & Society focused)
<ul style="list-style-type: none"> - Food banks - Soup kitchens 	<ul style="list-style-type: none"> - Community kitchens - Community gardens - Good food boxes - Co-ops - Map of location of charitable/emergency food outlets. 	<ul style="list-style-type: none"> - Participatory food costing/food security research to build capacity for policy change. - Food policies in public institutions (e.g., schools). - Social policies for living wage, adequate social assistance, affordable housing. - Policies to support local agriculture, buy-local.

Note. Adapted from: (Food Security Protects of Nova Scotia Nutrition Council and Atlantic Health Promotion Research Centre, 2005; Kalina, 2001; McCullum et al., 2005; Williams et al., 2012a)

Strategies described in the continuum are organized into three main categories. First, efficiency strategies, with a focus on the individual, are ad hoc and form a charitable response to hunger for a narrowly defined at-risk population. Examples of efficiency strategies include food banks and soup kitchens (Kalina, 2001; Hamm & Bellows, 2003; McCullum et al., 2005). This solution to food insecurity responds to immediate hunger without considering or taking action on the greater social structural challenges of inadequate income or accessibility to nutritious food. The second category is participatory or transition strategies that are community-focused and

reflective of community context. Examples include small-scale programs that focus on preparation skills or alternative methods of food acquisition (Cook, 2008; Kirkpatrick & Tarasuk, 2008). The third category is system redesign or radical restructuring beginning at the roots of the food insecurity problem. This could include policies aimed at poverty reduction, costs of housing and food, or promotion of small-scale production in rural and remote communities (MacRae, 2011). Many different approaches at individual, social, and systems levels are required in order to efficiently and sustainably eradicate food insecurity (Kalina, 2001; Williams et al., 2012a).

Although different interventions at all levels across the continuum are needed to address food insecurity, there is consensus among scholars that more sustainable solutions through policy development, especially to address structural determinants, must be created to eradicate food insecurity (PROOF, 2018; Seed et al., 2013; Wegener et al., 2012; Williams et al., 2012a). Participatory food costing (PFC) has been identified by food security researchers as a way to build capacity at multiple levels to influence policy change through meaningful engagement with diverse community partners – including those affected by food insecurity (Williams et al., 2012a; Williams et al., 2014). The integration of different ways of knowing through PFC is intended to ensure knowledge is “relevant and true to stakeholders’ experiences and leads to an understanding of the structural constraints to food security” (Williams et al., 2012a, pg. 181). This approach helps build awareness of and the capacity to address the root causes of nutrition inequalities and health disparities (i.e., policies that contribute to income inequalities and unjust food systems). However, NS is currently the only province in Canada to conduct PFC through government-supported research grants. However, there have been challenges with the sustainability of PFC in NS, including the need to support and align with the current

government's mandate and the uncertainty of funding commitment from one granting period to the next. Furthermore, despite the fact that Canada's elected officials at the federal level recognize that food insecurity is rooted in inadequate income (McIntyre et al., 2016b), and the recognition of the right to food by several international covenants that indicate that Canadian governments are obliged to address food insecurity (Haugen, 2012), little has been done by the Canadian government to defend this right (PROOF, 2018). Legislation that has been passed by Canadian officials related to food insecurity has narrowly focused on food charity, such as the Good Samaritan acts absolving donors of liability for the safety of donated food in Canada (McIntyre, Lukic, Patterson, Anderson, & Mah, 2016a). There are currently no publicly funded programs designed to prevent or alleviate food insecurity specifically, and the existing ad hoc community-based food charities and other food programs lack the capacity to alter household food insecurity (Hamelin et al., 2008; Loopstra & Tarasuk, 2012; Loopstra & Tarasuk, 2013a; Tarasuk et al., 2014a). Thus, health care providers have little chance of altering patients' circumstances through referrals to these programs (Tarasuk et al., 2015). A more upstream approach – one that seeks to reform the fundamental social and economic structures that distribute wealth, power, opportunities, and decision making (NCCDH, 2014b) – is required with social policy interventions aimed at reducing the prevalence of food insecurity. Relatively modest increments in income have been found to lessen food insecurity among low-income families (Ionescu-Ittu, Glymour, & Kaufman, 2015; Loopstra & Tarasuk, 2013b; McIntyre, 2003) and lower the rate of food insecurity among Canadian seniors has been attributed to the guaranteed annual incomes provided to them (Emery, Fleisch, & McIntyre, 2013a; 2013b).

2.2.4 Systemic forces influencing current approaches to addressing food insecurity.

This section positions food insecurity within a broader network of systemic forces that influence

action taken to address it. Tensions can, and do, emerge between efforts to enhance the environmental and economic sustainability of certain sectors and the need to ensure widespread access to healthy, locally produced food for consumers (Andrée et al., 2016). A discussion of forces that operate at the societal and global level to influence not only who can access food in our society, but also what foods are produced, distributed, and marketed is important in shaping healthy public policies that support food security for all. Four interrelated forces will be the focus of this section. They are economics (specifically income inequality and poverty), food systems (the impact of large-scale industrialized agriculture), food policy (the lack of coordinated government policy on food security in Canada), and multiple institutional factors.

2.2.4.1 Economics: income inequality and poverty. Income is a primary determinant of household food insecurity (Loopstra & Tarasuk, 2013b; Voices for Food Security in Nova Scotia, 2017). According to the most recent Statistics Canada 2016 senses data, NS had the highest percentage (17.2%) of the population living in low-income households in Canada (Statistics Canada, 2017a). Provincially, there have been minor positive changes to some aspects of the social safety net for Nova Scotians. Improvements have included a 79% increase in minimum wage from 2002 to 2014 and a 48% increase in personal allowance component of income assistance rates over that same period (Newell, Williams, & Watt, 2014; Statistics Canada, 2017a; Williams et al., 2012c). Changes within the federal jurisdiction in Canada have been more limited and, in many cases, resulted in major cuts to, or stagnant funding for, programs and departments that help to address food insecurity in Canada in the face of increasing demands (Andrée et al., 2016; Canada Without Poverty, 2015; Green, Williams, Blum, & Johnson, 2008). Emphasis has been on programs that provide relief for eligible working low-income individuals and families, such as the Working Income Tax Benefits and upper-

income families, such as the Universal Child Care Benefit (Canada Without Poverty, 2015). Despite the potential of these government programs to help create some level of income redistribution, income inequality has been growing in Canada since the 1980s with a general trend toward a shrinking of the social safety net (Voices for Food Security in Nova Scotia, 2017).

Additionally, the income gap within NS has been widening (Statistics Canada, 2017a). The wealthiest 20% of Nova Scotians hold 43.5% of after-tax income, while the poorest 20% hold five percent (Statistics Canada, 2017a). Since 1990, middle income Nova Scotians have lost the most income in absolute terms (average \$3,600) and the poorest 20% have lost the most in percentage terms (29% of their disposable income). The poorest 20% of Nova Scotian households are the poorest in the country, with an average disposable income (just \$8,205) 12% lower than that of the poorest 20% in Newfoundland and 20% lower than that of the poorest households in PEI and New Brunswick (Statistics Canada, 2017a).

Growing income inequality has been accompanied by an increasing proportion of Canadian workers who experience a combination of low pay, lack of benefits, insecure working conditions, and few opportunities to improve their situation (McIntyre, Bartoo, & Emery, 2014). About a third of all individuals who do paid work over the course of the year can be classified as vulnerable workers (Canadian Policy Research Network, 2005). Low annual earnings are also more common among part-time, as compared to full-time employees (Statistics Canada, 2015). The vast majority of part-time employees in Canada are female (70%) and lone-parent mothers report higher rates of food insecurity than lone-parent fathers or two-parent households (Statistics Canada, 2015). Statistics reported from Food Banks Canada (2016) also support the view that employment no longer guarantees immunity to hunger (Food Banks Canada, 2016). Food banks assisted 23,840 people in NS in March 2016, 30.4% of whom were children; an

increase of 40.9% since 2008 (Food Banks Canada, 2016). Moreover, fewer than one in four people who experience food insecurity actually use food banks, indicating that food bank statistics seriously underestimate the problem (Food Banks Canada, 2016; Kirkpatrick & Tarasuk, 2009; Tarasuk et al., 2014a). The increase in income inequality is a cause for concern, not just for those who rely on social assistance as their sole support, but also for an increasing number of employed individuals. Unstable employment and underemployment can leave parents and their children vulnerable to food insecurity (Voices for Food Security in Nova Scotia, 2017).

According to researchers who completed a PFC study across the province of NS in 2015, Nova Scotians working for minimum wage or on income assistance are unable to afford a basic, healthy food basket that meets their family's nutritional needs (Voices for Food Security in Nova Scotia, 2017). The researchers found that it costs \$935.11 to feed a family of four per month; up significantly from 2002 when FoodARC started collecting the data when it cost \$572.20 per month to feed this same reference family (Voices for Food Security in Nova Scotia, 2017). This suggests that the cost of a basic diet would be a struggle even for families earning \$10.60 per hour, minimum wage at the time of the study and wages and income support programs in the province are too low (Voices for Food Security in Nova Scotia, 2017).

2.2.4.2 Food system: industrial agriculture. The term 'food system' refers to the full range of activities that extend from field to table including farm production, food processing, wholesale and retail distribution, marketing, consumption, waste and composting (Agriculture and Agri-Food Canada, 2017). Over the last two centuries, a dominant food system has emerged in much of the world that is increasingly characterized by a move from local, small-scale production to concentrated production and mass distribution based on cheap food (Davison, 2011; Desmarais, 2007; Martin & Andr e, 2014; & Wittman, Desmarais, & Wiebe, 2011). Most

Nova Scotians now rely on food produced by large industrialized agriculture, much of which is controlled by an ever-decreasing number of large transnational corporations and transported over long distances (Martin & Andrée, 2014; & Wittman et al., 2011). Six transnational corporations control 85% of world grain trade and four companies account for 78% of the Canadian food retail market (Market Share Matrix Project, 2005). The incomes of local farmers and fishers in NS have been declining over the past 40 years, and due in part to competition from lower-priced imported goods, many food producers in NS already struggle to make a living (ACT for CFS, 2014; Ecology Action Centre, 2016).

Corporately dominated modern agriculture has placed the primary emphasis on quantity of production (Blouing et al., 2009). Industrialized methods have been very successful in finding innovative ways to dramatically increase production and reduce the threat of famine in the developed world (Clay, 2002). Changes to methods of production since the 1960s have been phenomenally successful in raising output. The result is that there is more than enough food produced to feed everyone on the planet, in spite of the more than tripling of the global population since 1900 and a rapid increase in urban populations (Clay, 2002; Patel, 2009). Unfortunately, this food has been distributed unequally throughout the world (Blouing et al., 2009; Desmarais, 2007; Patel, 2009). Some poorer countries are unable to produce, import, or distribute enough calories for their citizens (Blouing et al., 2009). Hunger exists among some in wealthier nations too, while many farmers in these same countries face low prices because of overproduction (Patel, 2009). Enough food is currently produced or imported into Canada to far exceed the energy needs of every Canadian. In 2004, there were 3,678 calories per day available for each Canadian from the food supply (Statistics Canada, 2005). This represents a 17%

increase in supply since 1981, the same year Canada's first food bank opened in Edmonton (Statistics Canada, 2005).

The current food system model does not have optimal human health or environmental sustainability as its primary guiding principles (Koc, MacRae, Desjardins, & Roberts, 2013; Patel, 2009). Agribusiness, like any other sector of the economy, is motivated, first and foremost, by financial profit (MacRae, 2011). One could argue that the social responsibilities of business today are generally limited to adhering to regulations on food safety and product promotions. But historically, those obligations arose out of public demand for regulation (Clay, 2002). In response, a number of social movements are pushing back and actively working to build healthier, more just, and sustainable food systems that see the needs of all (Martin & Andrée, 2014; Wittman et al., 2011; Williams, 2014). It is with these movements that community food security initiatives are generally aligned.

2.2.4.3 Lack of coordinated community food security policy. There are negative implications of the industrialized food system operating in the absence of coordinated government policies that require the food system to value public health and environmental sustainability at the same level as economics (Koc et al., 2013). Within Canada's federated governance, political power and decision-making relevant to food insecurity are shared (MacRae, 2011). For instance, the federal governments' jurisdiction includes income tax, unemployment insurance, social welfare programs, and a national health care plan. Yet, the administration of many food-related levels such as education, health care, social and community services, labour, and agriculture remains under provincial jurisdiction. Municipal governments fund and govern their own public health, water supply, urban and regional planning, housing, transportation, and social services, all of which are directly or indirectly relevant to food security

sustainability (MacRae, 2011). Shared responsibilities create tensions between various jurisdictional powers that leads to an uncoordinated distribution of agriculture and food-related responsibilities among various branches of government (Koc et al, 2013; MacRae, 2011). Consequently, fragmented policy approaches contribute to challenges for developing comprehensive community food security policy approaches (Koc et al., 2013; MacRae, 2011).

The impacts of neoliberalism on Canada's capitalist economy has also proven to be a barrier to the development and implementation of community food security policy. This productivist paradigm, which values competitiveness and efficiency (MacRae, 1999) hinders community food security policy development because economic gains are supported, while farming, food systems, and consumer health are neglected (MacRae, 1999). According to MacRae and colleagues (1999; 2011), nourishment, community food security, and environmental sustainability policies in Canada are subordinate to economic issues. A focus on economics, rather than action on broader determinants is also purported to hinder effective efforts to address food insecurity (MacRae, 2011). According to MacRae and colleagues (1999; 2011), the food and agriculture system has been preoccupied with traditional values of competitiveness and efficiency. As an ideology, neoliberalism generally eschews government intervention and privileges economic rationalities, fair trade, and market-based interests over environmental and social problems (Heynen, Prudham, McCarthy, & Robbins, 2007). Thus, in addition to economic considerations, a paradigm shift to include many environmental and social implications is needed. A paradigm shift from an economic lens to a multifunctional paradigm could put value on the non-commodity environmental and social outputs of agriculture (MacRae, 1999; 2011). The Toronto Food Policy Council (1995, pp. 29-30) summed up the situation:

The Canadian health care system, although committed to optimal nutrition in concept has failed to invest adequately in the provision of a nourishing affordable diet as a health

promotion measure. As a nation, Canada is left with the paradoxical situation of a private sector driven food production and consumption system and a publicly funded health care system. The consequence is that all Canadians end up paying for health care expenses associated with malnutrition, such as hunger, poor food choices, and poor food quality.

This broader perspective of community food security underscores the notion that policy development to promote access to safe and nutritious food for people must acknowledge the systemic factors that affect the resources available to Nova Scotian families and the types of foods they can choose (Voices for Food Security in Nova Scotia, 2017). In spite of the overall improvement in health and longevity that much of the world's population has achieved over the last century many signs point to a widening gap between rich and poor, a food system that does not have optimal public health or environmental sustainability as its primary goals, and governments that have been unwilling or unable to sufficiently address these imbalances (Andrée et al., 2016).

2.2.4.4 Institutional factors. Institutional factors refer to the power of networks of people that determine how issues are addressed. Successful community food security policy development and implementation were repeatedly reported to be dependent on greater partnerships and effective collaboration between all levels of the government with civil society organizations and other key stakeholders (Andrée et al., 2016; Seed et al., 2013). Specifically, engagement of civil society organizations in policy development processes has been identified (Koc et al., 2013; MacRae, 1999; 2011; Seed, et al., 2013; Wegener, Raine, & Hanning, 2012). The term civil society organization was used interchangeably with nongovernmental organization (NGO), and referred to a mix of community-based and environmental groups and other organizations that might constitute a policy network (MacRae, 2011). The different experiences and perspectives of civil society organizations contributed to the creation of a wider

range of initiatives to address food insecurity (Wegener et al., 2012). Civil society organizations were also found to be important for disseminating new food system ideas and policy options within British Columbia (Seed, et al., 2013). In addition to research findings, a discussion paper indicated that civil society organizations need to be recognized as a vital driver of change because they contributed to the transparency and accountability of the policy-making process (MacRae, 1999).

In NS, Andrée and colleagues (2016) discovered that many of the groups working on community food security-related issues were “working in silos,” thus contributing to a lack of coordination and communication and constraining progress (p. 20). Seed and colleagues (2013) offered recommendations on facilitators of collaboration. These approaches included supporting capacity building for civil society, clear communication of agendas and limitations, and a more cooperative approach from civil society organizations. MacRae’s (1999) discussion paper outlined ways to engage a wider range of government actors in food policy. For instance, creating provincial networks of municipal food policy council, and undertaking joint programming with civil society organizations were essential. Although it was acknowledged that while these approaches could widen the set of actors who participate in policy development it should not replace long-term structural change needed to enact comprehensive Canadian food policy (MacRae, 1999, 2011; Seed et al., 2013).

Effective partnerships and collaboration are also challenged due to competing agendas among civil society organizations, government, and food system stakeholders meaning “weightier” agendas such as food safety and trade are given priority over food security (Andrée et al., 2016; Seed et al., 2013). A “clash” of cultures between the government sector of Public Health and civil society organizations has further hindered policy development (Andrée et al.,

2016; Seed et al., 2013). This clash occurs partly as a result of Public Health's limited food security mandate and centralized approach, which was found to marginalize civil society organizations' voice at the provincial level (Seed et al., 2013). Varying definitions of food insecurity among stakeholders have contributed to competing agendas (Andrée et al., 2016; Wegener et al., 2012). For example, individual versus community level conceptualizations created varied perceptions of the problem and ways to address it (Wegener et al., 2012). Generally, there was a lack of understanding and consensus in relation to food insecurity and what a food security policy would actually look like (Andrée et al., 2016; MacRae, 1999; 2011; Wegener et al., 2012).

Government interest was also shown to influence public health involvement in policy development and other community food security initiatives, such as community kitchens or school gardens. Key drivers of community food security initiatives into the BC government included public health renewal, government interest because of climate change, increasing poverty rates, and the introduction of healthy school foods and pressure from civil society food security networks and health-focused NGOs (Seed et al., 2013). However, in NS, a "lack of political will" was identified as limiting the realization of community food security in the province (Andrée et al., 2016, p. 21). Although the lack of will may not be outright opposition to the proposed change, it may take the form of outright opposition (Andrée et al., 2016). Additionally, the lack of government follow-through and enforcement of policies has limited community food security in NS. For instance, Andrée and colleagues (2016) found that despite guidelines encouraging a certain amount of local product to be used in public venues, the NS Department of Agriculture did not always abide by the policy when catering events. Similarly, although the NS government developed the *NS Poverty Reduction Strategy* to improve

conditions for low-income groups, no reporting mechanisms or clear targets were developed to ensure follow-through (Andrée et al., 2016).

The integration of food security into a core program in the Public Health sector was also found to be critical for the adoption of food insecurity policy by the government. According to Wegener and colleagues (2012), Public Health effectively helped “legitimize” (p. 4115) food security by increasing government support and recognition of a number of interrelated food system concerns. Public Health was found to be a key driver of food security in BC, both as a key player and positioning the public’s health as a driver in food security and food systems (Wegener et al., 2012). In NS, there is an emerging opportunity for moving forward on policies related to community food security within public health (Andrée et al., 2016; NS DHW, 2005; 2012). A number of factors have come together, creating a climate more amenable to expanding the role of the NSHA and local governments in building supportive food environments (Andrée et al., 2016). These factors include the development of a strong public health *Healthy Communities Protocol* in 2012, and the appointment of a Medical Officer of Health 2016 who conveys strong messages about the ways in which various levels of government can work together with researchers and civil society organizations to improve community food security (Andrée et al., 2016).

Credibility, as perceived by the government and stakeholders was also influential in the degree and nature of organizations’ participation in policy work (Bryson, Crosby, & Stone, 2006; Sattler, 2005). Confidence in organizations’ competence, expected performance, or anticipated contributions to solve a problem facilitated organizations’ participation in policy initiatives and increased their political power (Bryson et al., 2006; Schneider et al., 2009). Mixed perceptions of the legitimacy of Public Health’s actions were also found to be a barrier to food insecurity policy

development (Seed et al., 2013). Participants from Seed and colleagues' (2013) study questioned Public Health's motivation and investment in non-mandated activities such as food insecurity. Other participants saw Public Health staff as having genuine concern for local food system issues. Public health participants reported that staff were motivated to support policy and environmental changes yet found it difficult to engage with the community and attract interest and participation of other government actors and regional departments (Seed et al., 2013).

2.3 Relevance of Food Insecurity to Public Health Nursing Practice

The PHNs' role in addressing food insecurity is supported in the literature. Traditionally, PHNs have worked with others outside the health sector to address structural determinants that influence health. Although there was no discussion of the PHNs engagement in food insecurity specifically, the need for PHNs to address broader determinants of health that lie outside of the health sector, such as child and family poverty (Cohen & McKay, 2010; Cohen & Reutter, 2007), housing security and safe neighbourhoods (Handelman, 2003; Welch & Kneipp, 2005), access to welfare benefits (Greasley, 2005), social exclusion (Yanicki, Kushner, & Reutter, 2015), gang violence prevention (McDaniel, Logan, & Schneiderman, 2014), domestic violence prevention (Snell, 2015), and climate change (Polivka, Chaudry, & Crawford, 2012) were identified in the literature.

Overwhelmingly, researchers advocating for nursing roles beyond the health sector, encourage practitioners to work collaboratively to take action on the sociopolitical conditions that give rise to poor health outcomes. This position represents a significant shift from a narrow focus on individual characteristics to considering SDH, or "upstream" factors that affect the health of individuals, families, and communities (Keller, Strohschein, Lia-Hoagber, & Schager, 2004a;

2004b; NCCDH, 2014b; Reutter & Kushner, 2010). This view has led to consideration of an expanded conceptualization of health-promoting nursing practice. PHNs' role in advocating for healthy public policies, including those that address root causes of ill health, have been clearly articulated in the literature (Reutter & Kushner, 2010). Daiski (2005) stated that "as nurses and healthcare practitioners are on the front lines...we need to advocate for social equity, adequate welfare, and disability payments, wages people can live on, affordable housing as a right, and social inclusion of the poor" (p. 37).

Professional/regulatory support. The role of PHNs in advocacy for healthy public policy and for promoting social justice and health equity through action on food insecurity is supported by professional nursing documents at the international and national level. At the international level, the International Council of Nurses (ICN; 2011) stated that nurses have an obligation to safeguard, respect, and play a strategic as well as operational role in the promotion of people's health rights at all times and in all places. Another ICN (2008) position statement indicated that nurses must be part of national and multi-sectoral action plans and policies to mitigate the impact of climate change on the population due to the indirect impact on human health through potential changes in food availability and quality. PHN activities related to reform of public policy, social, economic, and cultural structures and systems are not clearly described in these statements.

In Canada, professional support for nurses to engage in work to address food insecurity as part of their role in addressing inequities has been recognized in several professional documents. The CNA (2013) published papers summarizing the impact of social and economic factors (e.g., poverty, food insecurity) on population health. Recommended interventions for PHNs suggested using multiple interventions across multiple systems levels, including SDH in

client assessments and treatment, lobbying for reorientation of the healthcare system and creating programs beyond lifestyle factors, as well as advocating for healthy public policies (CNA, 2013; Kregg-Byers, 2010; Muntanger, Ng, & Chung, 2012).

Other Canadian documents support action on food insecurity. Although advocacy for an equitable allocation of social and economic resources needed for health was not explicitly stated as an ethical responsibility of nurses, the *Code of Ethics* (CNA, 2017) stated that nurses should promote social justice by advocating for health and social conditions that allow persons to live with dignity. Nurses are encouraged to work individually as concerned citizens or collectively for policies and procedures for social change (CNA, 2017). Similarly, some of the actions and responsibilities identified in the *Standards of Practice* for Canadian community/PHNs include addressing the root causes of health inequalities and identify which determinants of health require action and/or change to promote health applying principles of social justice (CHNC, 2011). The standards also support engaging in advocacy in support of those who are as yet unable to take action for themselves and to support community action to influence policy change in support of health (CHNC, 2011). Lastly, other Canadian stakeholders, through discussion papers, attempt to advance the role of nursing in reducing health inequalities, with a specific emphasis on food insecurity and suggest that taking action requires the collaboration of various government, civil society, and health actors (Muntanger et al., 2012).

Provincially, health equity and populations of concern are important considerations in planning and implementation across all NS public health core divisions, including: Communicable Disease Prevention and Control, Environmental Health, Healthy Communities, Healthy Development, and Population Health Assessment and Surveillance (NS DHW, 2015). The application of a health equity lens means examining the core programs through an equity-

focused health impact assessment to identify what the programs are trying to do, look for evidence of inequities, consider who may be disadvantaged by the programs, and identify what might be unintended consequences of program implementation (NS DHW, 2015).

2.4 Conceptual Models of Public Health Nursing Practice

Although there is a paucity of published literature on PHNs' engagement in work to address food insecurity, a review of current public health nursing practice conceptual models was a useful guide for examining literature related to understanding the full scope of the PHN role in addressing food insecurity through action on the SDH in general. Public health nursing practice conceptual models have been identified as key organizational tools to support nursing practice (Betker, 2010; CHNC, 2011b; Cusack, Cohen, Mignone, Chartier, & Lutfiyya, 2017; MacPhee, Wardrop, Campbell, & Wejr, 2011), by identifying activities that PHNs have direct control and responsibility for (Cusack et al., 2017; MacPhee et al., 2011) and articulating a nursing philosophy based on specific knowledge, skills, and competencies for practice (George & Lovering, 2013; Ives Erickson & Ditomassi, 2011). PHNs use practice models to assist with practice decisions and change (Ives Erickson & Ditomassi, 2011). A total of 19 conceptual models were identified, reviewed, and have been summarized in Table 2.3 below.

Table 2.3: *Public Health Nursing Practice Conceptual Models*

No.	Conceptual Model / Authors (listed by date)	Description of model
1	A Public Health Nursing Conceptual Model (White, 1982).	This model delineates the scope and substance of public health nursing practice. This model includes the determinants of health as impacted by the nursing process and the valuing process along with the PHN scope of practice, at individual, family, and aggregate levels.

No.	Conceptual Model / Authors (listed by date)	Description of model
2	The Interactive and Organizational Model of Community as Client (Kuehnert, 1995).	In this model, organizational context of PHNs (i.e., how staff position based on education and expertise — thus different levels of preparation, job titles, and duties) is recognized as influencing the nursing process and thus determines their level of practice. The three levels of foci are represented in three separate circles — connected by one-directional arrows (community to individual/family and aggregate focus). One-directional arrows also show a relationship between nursing process at each level of foci.
3	The Dimensions Model of Community Health Nursing (Clark, 1996, 2008).	This conceptual model includes the nursing process and public health levels of prevention with an emphasis on the determinants of health and dimensions of nursing.
4	The Population Health Promotion Model (Hamilton & Bhatti, 1996).	This conceptual model guides PHN actions to improve health through three overarching questions: 1) On what should we take action? (full range of health determinants), 2) How should we take action? (Comprehensive action strategies), and 3) With whom should we act? (various levels of action). Relationships are shown on a 3D cube. This model also illustrates the need for evidence-based decision-making in the development of interventions.
5	The CHN Practice Model (Zottie, Brown, & Stotts, 1996).	This model demonstrates overall CHN goals, roles, service focuses, types of service, and activities. The philosophy of primary health care underlies this model (i.e., equity is essential, community as a whole, multi-sectoral collaboration is needed). No relationships between these constructs are shown.
6	The Public Health Nursing Model (Kuss, Proulx-Girouard, Lovitt, Katz, & Kennelly, 1997).	This conceptual model uses a flowering tree depiction of public health nursing with an emphasis on community empowerment along with the core public health functions within the context of the public health environment that impacts the health of populations. Interdisciplinary collaboration and community partnerships are not represented but are implicit at all levels.
7	Community Energy Model (Helvie, 1998).	This theoretical model is based on <i>Energy Theory of Nursing and Health</i> and focuses on energy as the capacity to do work. The human system is a changing energy field with energy exchanges influencing the health of the population.

No.	Conceptual Model / Authors (listed by date)	Description of model
8	The Intervention Wheel (Keller, Strohschein, Lia-Hoagberg, & Schaffer, 1998).	This population-based conceptual model describes the scope of public health nursing interventions and includes 17 nursing interventions applied at the individual, community, and systems level. This is a circular model with broken lines to represent that all three levels of interventions (individual/community/systems) must be used to address a problem. The core functions of PHN overlay and the nursing process underlies all PHN interventions. Implicit assumptions include PH is grounded in a belief in social justice.
9	Intervention Model for Population-Based Public Health Nursing Practice (Kosidlak, 1999).	This conceptual model includes six strategies for PHNs for the planning and implementation of population health interventions. Although not presented in the model, authors discuss some of the factors that influenced implementation of their model.
10	The Integrative Model for Holistic Community Health Nursing (Laffey & Kulbok, 1999).	This conceptual model includes the interrelated dimensions of the focus of care (health promotion, illness/disease/disability prevention, ad illness care), and client system (individual, family, aggregate, and community) levels of care. However, one nurse cannot attend to all foci of care and client levels within the system at the same time. Community partnerships are not represented but are implicit.
11	The Reconceptualised Roy Adaption Model (Roy & Andrews, 1999).	Based on <i>Roy's Adaptive Model</i> , this linear conceptual model uses the nursing process to describe and predict the complex nature of the ineffective person and broader environment interactions, which PHNs observe and generate interventions to promote adaption.
12	ASTDN Public Health Nursing Practice Model (Association of State & Territorial Directors of Nursing, 2000).	This circular conceptual model demonstrates the dynamic nature of the practice of PHNs within the framework of the core functions and essential services, activities that include all the elements of the nursing process.

No.	Conceptual Model / Authors (listed by date)	Description of model
13	Public Health Nursing Population-Focused Practice Model (Lopez & Kaiser, 2002).	This population-focused conceptual model includes multiple levels of PHN care as related to strategies and outcomes. Relationships between levels of care, interventions, and outcomes are represented in a linear fashion. Interventions are based on the Intervention Wheel model. Outcomes are individually based (i.e., “client satisfaction,” “access to care,” etc.).
14	Comprehensive Multi-Level Nursing Practice Model (May, Phillips, Ferketich, & Veraan, 2003).	Based on the PHN practice model and community-based action research, this model focuses on the interventions of personal preventative nursing, organized indigenous, and community empowerment. This model works under the assumption that despite progressive agency, organizational structures and traditional hierarchical administration ‘subtly’ constrain practice. PHNs can suggest changes in operational mechanisms by examining practice sites and hidden bureaucratic structures preventing professional roles. PHNs may need to revise rules for roles.
15	The Public Health Nursing Practice Model (Smith & Bazini-Barakat, 2003).	This population-based model uses the nursing process in addressing health indicators using nursing interventions based on the Intervention Wheel. Model is a half-circle with the level of practice in the center. Arrows are one-directional between nursing process and related interventions to accomplish the nursing process. Grounded in the precepts that PHN practice uses a team approach.
16	Framework for the Delivery of Public Health (Nurse & Edmondson-Jones, 2007).	This conceptual framework illustrates multiple components of public health (process, standards, and functions) and relates them to key influencing factors (national and local drivers — or gaps in drivers) to give direction for the effective delivery of public health. In the center of the model is the overarching vision is to reduce inequalities and improve health. All components of public health are not in isolation from the rest of the world represented in a sketch of a Greek temple surrounded by blue sky, the ground, a growing tree, and flower.

No.	Conceptual Model / Authors (listed by date)	Description of model
17	Health Equity through Action on the SDH (Reutter & Kushner, 2010).	This conceptual model, constructed as a Venn diagram, identifies key dimensions of the concept of health (in)equities. The authors argue that nurses can address inequities at individual and community levels by ensuring access to health and healthcare. Access can be promoted by providing sensitive and empowering care; addressing root causes to improve underlying conditions; appreciating the extent of inequities and working collaboratively to take them. Policy analysis and advocacy are essential in promoting health equity.
18	Community-as-Partner Model (Anderson & McFarlane, 2011).	Based on <i>Neuman's Health System Model</i> and the nursing process, this model includes an assessment wheel with eight subsystems and normal and flexible lines of resistance and defense in the community. Interventions are based on the Intervention Wheel. This model bases theoretical relationships on general systems theory. Change in one subsystem results in cascading changes for the entire system, thus necessitating adaptation. System disorganization results from demands of continuous readjustment for effective adaptation to change. For systems to meet goals, increasing order occurs so that system can attain a steady state.
19	Professional Practice Model (Canadian Community Health Nursing, 2011).	This circular conceptual model includes the structure, process, and values that support CHN/PHNs' control over the delivery of nursing care and the environment in which care is delivered.

I developed a tool to assess essential components in a conceptual model represented by the inclusion criteria that could inform PHN practice in the context of addressing food insecurity. Several commonalities and differences between the models were noted and are summarized in Table 2.4 below. Overall, four key themes were identified: a) importance of inclusion of the SDH in PHN practice, b) need for a broad scope of population-based and system-level focused

interventions, c) emphasis on partnerships and collaboration, and d) identification of factors influencing PHN practice, such as having public health nursing specific competencies, organizational structures, and systemic forces.

Table 2.4: *Comparison of Existing Public Health Nursing Conceptual Models*

Conceptual Models (by date)	Descriptive Dimensions						
	SDH Addressed	Population-focused	System-level change	Describes PHN intervention	Inter-professional /sectoral collaboration included	Engagement of client / civil society included	Factors influencing PHN practice addressed
A Public Health Nursing Conceptual Model (White, 1982).	X			X			
The Interactive & Organizational Model of Community as Client (Kuehnert, 1995).				X			X
The Dimensions Model of Community Health Nursing (Clark, 1996).	X						
The Population Health Promotion Model (Hamilton & Bhatti, 1996).	X	X	X				
The CHN Practice Model (Zottie, Brown, & Stotts, 1996).				X			
The Public Health Nursing Model (Kuss, Proulx-Girouard, Lovitt, Katz, & Kennelly, 1997).							
Community Energy Model (Helvie, 1998).				X			

The Intervention Wheel (Keller, Strohschein, Lia-Hoagberg, & Schaffer, 1998).		X	X	X			
Intervention Model for Population-Based Public Health Nursing Practice (Kosidlak, 1999).				X			X
The Integrative Model for Holistic Community Health Nursing (Laffey & Kulbok, 1999).						X	
The Reconceptualised Roy Adaption Model (Roy & Andrews, 1999).				X			
ASTDN Public Health Nursing Practice Model (Association of State & Territorial Directors of Nursing, 2000).			X		X		
Public Health Nursing Population-Focused Practice Model (Lopez & Kaiser, 2002).		X		X			
Comprehensive Multi-Level Nursing Practice Model (May, Phillips, Ferketich, & Veraan, 2003).				X			X
The Public Health Nursing Practice Model (Smith & Bazini-Barakat, 2003).		X		X	X	X	X
Framework for the Delivery of Public Health (Nurse & Edmondson-Jones, 2007).				X			X
Health Equity Through Action on the SDH (Reutter & Kushner, 2010)	X	X	X	X	X	X	X
Community-as-Partner Model (Anderson & McFarlane, 2011).				X	X		
Professional Practice Model (Canadian Community Health Nursing, 2011).	X	X	X		X		X
TOTAL	5	6	5	13	5	3	6

Note. 'X' means descriptive dimension present in conceptual model

While none of the conceptual models specifically addressed food insecurity, the existing conceptual models provide valuable insight into elements that are applicable to PHN practice in the context of work to address food insecurity. These public health nursing practice conceptual

models provided insight into the SDH, population-based and system-level focused interventions, partnerships and collaboration, and factors influencing PHN practice.

2.4.1 Role of the SDH. The inclusion of the SDH (CHNC, 2013; Clark, 1996, 2008; Hamilton & Bhatti, 2001; Reutter & Kushner, 2010; White, 1982) were represented in only five of the conceptual models. The inclusion of the SDH was based on the understanding that social production and reproduction of health have been constructed and PHNs must be aware and take action on these underlying determinants in their practices (CHNC, 2013; Clark, 2008; Hamilton & Bhatti, 2001; Reutter & Kushner, 2010; White, 1982). All these models are similar in that they are based on an awareness of the complexity of health and that an understanding of these complexities is necessary for PHN policymaking and action. Hamilton and Bhatti's (2001) conceptual model, for example, was developed to guide evidence-based PHN actions to improve health by answering three overarching questions: 1) on what should we take action? (full range of health determinants), 2) how should we take action? (comprehensive action strategies), and 3) with whom should we act? (various levels of action). The models including the SDH differed with regard to the determinants included. Some of the models focused more on upstream determinants, while others focused on downstream determinants. For example, some of the models focus on behaviour, knowledge, and skill change (Clark, 1996), while others include more upstream policy community change (Hamilton & Bhatti, 2001; Reutter & Kushner, 2010).

The current conceptual models that include the SDH are abstract in the sense that they aim to provide a theoretical and not a factual overview of potential elements involved in potential pathways to ill health or inequities. Therefore, because the current conceptual models are not designed to explain in concrete detail what elements form what pathways in a particular situation, nor can they describe how the health outcome or disparities in a particular context

came about, the prescriptive power of these conceptual models for PHN interventions is reduced. A conceptual model to address food insecurity will require an understanding of the relationships between these SDH.

2.4.2 Population-based and system-level focused interventions. PHN interventions are central in most of the models that were examined (Anderson & McFarlane, 2011; Dixon, 1999; Helvie, 1998; Keller et al., 1998; Kosidlak, 1999; Kuehnert, 1995; Kuss, Proulx-Girouard, Lovitt, Katz, & Kennelly, 1997; Kaiser, Barry, & Kaiser, 2002; May, Phillips, Ferketich, & Veraan, 2003; Nurse & Edmondson-Jones, 2007; Reutter & Kushner, 2010; Smith & Bazini-Barakat, 2003; White, 1982; Zottie, Brown, & Stotts, 1996). Keller and colleague's (1998) *Intervention Wheel* stands out as the most comprehensive in relation to interventions, which provides a detailed identification of interventions that focus on the individual, community, and systems levels. The 17 interventions outlined have been incorporated into other conceptual models (Anderson & McFarlane, 2011; Kaiser et al., 2002; Smith & Bazini-Barakat, 2003).

Although most of the models suggest the importance of the multiple levels of practice (individual and family/ community/ systems), as critical to public health nursing, only six of the models are specifically identified as 'population-based' (CHNC, 2013; Hamilton & Bhatti, 2001; Keller et al., 1998; Lopez & Kaiser, 2002; Reutter & Kushner, 2010; Smith & Bazini-Barakat, 2003). Population-based practice is an approach that addresses the entire range of factors that determine health and, by doing so, affects the health of the entire population (CHNC, 2013). The population-based model proposed by Canadian researchers, Reutter and Kushner (2010), outlines interventions to guide PHN practice in addressing health inequities specifically; thus, may be the most relevant model to guide understanding of public health nursing interventions to address food insecurity. The authors argue that PHNs can address inequities at individual and community

levels by ensuring access to health and healthcare. Access can be promoted by providing sensitive and empowering care; addressing root causes to improve underlying conditions; appreciating the extent of inequities; and working collaboratively to tackle them. Policy analysis and advocacy are essential in promoting health equity. The authors understand the first step to address health inequities is increasing awareness of the SDH among key stakeholders, including health providers, decision-makers, and the public (Reutter & Kushner, 2010).

In accordance with the *Community Food Security Continuum*, interventions that are population-based would be important to address food insecurity. Further, all three levels of interventions are necessary and one level of intervention should not be seen as a replacement for another (Kalina, 2001; Keller et al., 1998; Hamm & Bellows, 2003; McCullum et al., 2005). The conceptual models reviewed reflect an assumption that all levels of interventions should be integrated into PHN practice (CHNC, 2013; Hamilton & Bhatti, 2001; Keller et al., 1998; Lopez & Kaiser, 2002; Reutter & Kushner, 2010; Smith & Bazini-Barakat, 2003).

The broad scope of approaches to address food insecurity that ranges from individual to community to system redesign strategies requires a conceptual model that has a comprehensive list of interventions (MacRae, 2011). Population-based, individual-focused interventions could include person-to-person interventions such as cooking classes with an educational component, that can create changes in knowledge and skills either singly or in families or groups (Cook, 2008; Keller et al., 1998; Kirkpatrick & Tarasuk, 2008). Population-based, community-focused interventions could include public awareness campaigns and advocacy to address food insecurity through community gardens as a way to create changes in community norms, awareness, attitudes, practices, and behaviours (Cook, 2008; Kirkpatrick & Tarasuk, 2008). These interventions are directed toward all people or groups within the community (Keller et al., 1998).

Lastly, population-based, systems-focused interventions are essential to creating change in organizations through policies, laws, and structures. These population-based interventions address the structural determinants of food insecurity, shifting the focus from individuals or communities to the systems that serve them (Keller et al., 1998; MacRae, 2011). Despite the comprehensive list of population-based interventions offered in the conceptual models reviewed, they are nonspecific in terms of intervention delivery, which limits the prescriptive power of the models in public health nursing practice overall.

2.4.3 Partnerships and collaboration. Some of the conceptual models for PHN practice emphasize interdisciplinary and inter-sectoral partnerships and collaboration as essential to identify and solve problems (Anderson & McFarlane, 2011; Association of State & Territorial Directors of Nursing [ASTDN], 2001; CHNC, 2013; Dixon, 1999; Kuss et al., 1997; Laffey & Kulbok, 1999; Reutter & Kushner, 2010). Interdisciplinary knowledge involves scholars from two or more distinct scientific disciplines working together to solve a problem through coordinated and coherent linkages that result in the overlapping of disciplinary boundaries (Aboelela et al., 2007; Choi & Pak, 2006). Inter-sectoral collaboration refers to a relationship between various stakeholder groups (e.g., government, civil society organization) and sectors (e.g., health, environment, education, economy), which has been formed to jointly take action on an issue to achieve health outcomes (Fawcett, Schultz, Watcon-Thompson, Fox, & Bremby, 2010) “in a way that is more effective, efficient, or sustainable than could be achieved by the health sector acting alone” (WHO, 1997, p. 3). Although the partners were not specified, guidance on how to select partners was given (CHNC, 2013). A couple of the models explicitly emphasized the importance of partnerships and collaboration with civil society organizations and members of the community to create healthy environments is an important PHN role (Kuss et al.,

1997; Reutter & Kushner, 2010). The models also described the rationale for including partners. A key driver for the emphasis of the need for multiple disciplines and sectors to work together in the conceptual models is the recognition that solving complex issues such as health inequities, and the determinants of health is beyond the capacity of any one sector and beyond the realm of the health sector alone (CHNC, 2013; Kuss et al., 1997). Given that the roots of food insecurity lie in deeper modifiable structures, and the fact that these elements lie within and beyond the health sector, food insecurity not only requires a multi-level and multi-dimensional approach, but an interdisciplinary and inter-sectoral approach as well (Drimie & McLachlan, 2013).

2.4.4 Factors influencing PHNs' engagement in addressing SDH. Although current nursing models can be helpful in creating a vision for the potential role for PHNs in addressing food insecurity, there is a discrepancy between PHN theory and practice, which accounts for the undefined roles for PHN in addressing food insecurity. The findings from this review support discussions in the literature that also note a discrepancy between PHNs' proposed system-level interventions and a reality that PHNs most commonly remain at the individual and family-level (Carnegie & Kigr, 2009; Cohen & McKay, 2010; Falk-Rafael & Betker, 2012; McDaniel et al., 2014). Moreover, PHNs feel most comfortable and competent when working at the individual level (Carnegie & Kigr, 2009).

2.4.4.1 Individual factors. A conceptual model to guide PHN practice in the context of engagement in work to address food insecurity must include specific competencies requisite for practice in this area. Most of the conceptual model sources reviewed infer some of the competencies required of PHNs to carry out population-based strategies (Kosdilak, 1999). Public health nursing competencies are "the integrated knowledge, skills, and judgement and attributes required of a PHN to practice safely and ethically. Attributes include, but are not limited to

attitudes, values, and beliefs” (CHNC, 2009, p. 2). These competencies build on pre-existing general nursing knowledge and skills that require adoption for public health nursing practice. According to the NSHA (2015), PHN competencies include: coalition building and collaboration, advocacy, policy development, incorporation of concepts of inclusiveness, equity and social justice as well as the principles of community development, all of which align with the expected competencies articulated by the CHNC (2009). Kuehnert (1995) found PHNs’ degree of agreement with the importance of community-focused nursing was translated into levels of actual practice for community-focused nursing.

Although there was minimal discussion of the factors that influence PHNs’ engagement in food insecurity initiatives specifically, two barriers were identified. These include two issues originating from PHNs themselves. First was the nurses’ lack of knowledge, skills, and confidence for population-focused work was a factor influencing greater involvement of PHNs in individual-level strategies (Cohen & McKay, 2010; Hoisington, Braverman, Hargunani, Adams, & Alto, 2012; McDaniel, et al., 2014; Tscholl & Holben, 2006). Second, certain personal attitudes and beliefs about the causes of SDH and their role in addressing SDH were found to influence action. For example, Cohen & McKay (2010) discovered that some PHNs held negative attitudes towards, or stereotypes of, people living in poverty, viewing poverty as a product of laziness or some other individual deficit. This view as opposed to poverty being a product of the social organization of society, limited the PHNs’ understanding of their role in addressing the SDH.

2.4.4.2 Organizational factors. Some of the conceptual models identified organizational factors that influenced public health nursing practice and action (CHNC, 2013; Kuehnert, 1995; May et al., 2003; Reutter & Kushner, 2010). PHN participation and effectiveness in promoting

population health was significantly enabled or constrained by organizational values, policies, support, standards, and funding (May et al., 2003). May and colleagues (2003) indicated that business philosophy has influenced health departments to espouse business rules and policies. Therefore, because many administrators view public health nursing as unprofitable in the short-term, there has been pressure on nurses to change their practice (May et al., 2003). When attempting to implement their model, May and colleagues (2003) further found that organizational structures were created and maintained to facilitate delivery of public health services, but ‘subtle’ forces operated to assure services fit within constraints imposed by categorical funding and a big-business approach to health. These researchers emphasized the word subtle because in this setting no blatant policies existed to prevent the PHN generalist role.

Kuehnert (1995) informs users that his model is more fully visualized by examining the organizational basis of public health nursing agencies. That is, how staff level or position (based on educational background and expertise) is correlated with whether the primary focus of the nurse’s practice is individual/family, aggregate, or community-wide. While all PHNs practice in all foci to some degree, the primary focus of their practice changes with the level of preparation and with job title and duties (Kuehnert, 1995).

Management practices were seen as foundational for effective PHN practice (CHNC, 2013). Management practice refers to the structure and processes for decision-making within community organizations and agencies. Formal communication and decision-making mechanisms and management practices that include formal or informal rewards (i.e., celebrate success, certification, promotion and professional advancement) are essential for effective public health nursing professional practice (CHNC, 2013).

Although not specific to PHN practice, some of the food insecurity literature described factors that support or undermine public health efforts to address food insecurity. Effective collaboration, involvement of all levels of government, credible partners, and political champions contributed to successful efforts (Seed, et al., 2013; Wegener et al., 2012). Challenges for addressing food insecurity included competing agendas and priorities as well as varying mandates, definitions of food insecurity, approaches to problem resolution, and views on the perceived legitimacy and motivation for stakeholder involvement (Muntanger et al., 2012; Hamelin et al., 2010; Seed, et al., 2013; Wegener et al., 2012).

The broader literature on the SDH provided additional factors that influenced action. PHN participation and effectiveness in promoting population health was significantly enabled or constrained by organizational values, policies, support, standards, and funding (Cohen, 2006; McDaniel et al., 2014; McMurray & Cheater, 2004; Polivka et al., 2012). Organizational factors found to adversely affect PHNs' scope of practice included for instance, a marked emphasis on education (healthy behaviours, healthy child development), counselling (coping skills), and the provision of direct care services (e.g., immunizations) to low-income families and children (Cohen & McKay, 2010; McMurray & Cheater, 2004; Underwood, et al., 2009). These factors were described by PHNs as the reason why there was a discrepancy between what they envisioned as their potential role in addressing SDH and what their current role allowed them to do (Cohen & McKay, 2010). These factors also influence PHNs' work on system-level interventions (Abood, 2007; Cook, 2008).

2.4.4.3 Systemic factors. Some of the conceptual models identified systemic factors that influenced PHN practice and action (ASTDN, 2001; CHNC, 2013; Kuss et al., 1997; Smith & Bazini-Barakat, 2003). Government interest and subsequent support were shown to influence

PHN involvement in system-level interventions. Decisions about funded services, resources, performance standards and policies that affect communities influence the ability of PHNs to deliver care (CHNC, 2013). In the United States, funding is provided categorically, limiting the ability to focus on the broad determinants of health and the underlying reasons for poor health (ASTDN, 2001; Kuss et al., 1997; Smith & Bazini-Barakat, 2003). Smith and Bazini-Barakat (2003) further contended that categorical funding has changed the PHN's role from generalist to specialists as health departments discontinue general health promotion and disease prevention programs or public health nursing. Where categorical funding has not eliminated public health nursing, it has strongly constrained the role.

2.4.5 Critique of existing conceptual models. A critique of existing conceptual models revealed three implications for PHN practice in the context of engaging in work to address food insecurity. While the current conceptual models provide valuable insight into key elements of PHN practice in the context of food insecurity, several limitations are evident. First, none of the existing models are comprehensive in conceptualizing the dimensions required to address food insecurity. Although the current conceptual models did provide an overall comprehensive list for PHNs requisite knowledge and skills and the interventions at different systems levels, the relationships between concepts are not readily apparent. Models that did depict relationships portrayed a linear association between the SDH and concepts of public health nursing practice, rather than a more integrated and iterative interaction of key elements and complex processes that would be needed to understand complex issues, such as food insecurity.

Current conceptual models also provide limited “how-to” support for carrying out implementation endeavours to guide PHN practices. In general, the prescriptive aspect of intervention, which is characteristic of practice theories, needs further development in the current

public health nursing conceptual models (Bigbee & Issel, 2012; Krumeich & Meershoek, 2014). Even the most sophisticated and comprehensive models such as those developed by the CHNC (2013), Hamilton and Bhatti (2001), and Keller and colleagues (1998), which not only provide an overview of major categories of SDH, but also depict how these categories, could interconnect (thus aiming to serve as a starting point for policy, strategy, and action), are too generic and abstract, and are not readily translated into practical tools to guide PHNs' practices. To direct practice, conceptualizations of interventions should include a clear and specific delineation of the causes or determinants of specific population health concerns and issues, such as food insecurity, which then are the targets of PHNs' population-focused interventions (Issel, 2009). Greater specificity addressing the link between determinants of health, interventions, and population outcomes is needed in the current public health nursing practice models if we are to move toward developing middle-range public health nursing theory in the future.

Second, the current conceptual models that were examined identified the strengths and contributions of others and reported the understanding that effective communication, consultation, collaboration, and partnerships was an imperative of practice and an ethical obligation of the professional nurse. However, this is often only articulated in text, which limits the ability to depict potential relationships among partners. Collaboration is not reflected as central or represented in the resulting models. A conceptual model in the context of food insecurity will need to include explicit interdisciplinary and inter-sectoral partners for collaboration with close attention paid to the dynamics of their relationships and partnerships. Findings from the food insecurity literature indicated that organizations face particular challenges when addressing complex social and health policy issues that require partnerships and effective collaboration between all levels of government, with civil society, and other key

stakeholders (e.g., education, social services, food system workers). The intersecting of disciplinary and sectoral boundaries would result in several dimensions of the same problem, from various theoretical and methodological paradigms, to be generated (Choi & Pak, 2006). Multiple perspectives and methods to solve the same problem can create more insights and develop a more holistic and comprehensive picture that is foundational to eradicate food insecurity (Choi & Pak, 2006; Drimie & MacLachlan, 2013). Interdisciplinary knowledge would also encourage research that is broader in scope, more clinically relevant, and sensitive to the different underlying determinants and structures contributing to food insecurity, which, in turn, would help create policies that are socially, economically, and politically stable (Barrett, Curran, Glynn, & Goodwin, 2007; Williams et al., 2012a).

Lastly, a critique of the existing conceptual models challenges us to consider how we might understand, plan, and manage PHNs engagement in work to address food insecurity within complex social and political decision contexts. Decision-making can be defined as the discovery and selection of alternatives (Loke, 1996); the intuitive judgments made by humans, and the relationship of priorities to goals in the decision-making process (Slade, 1994). Judgment about choices is a persuasive activity, in which the decision maker must be persuaded to choose a course of action from alternatives (Kerrigan, 1991). Most decisions are based on the anticipations people make about the immediate and/or distant future. This definition of decision-making assumes the rationality of actors. More contemporary definitions of decision-making recognize that decision-making is made within unconscious contexts, suggesting the need to look at not only agency, but the context within which agents make decisions (Matteson & Hawkins, 1990; Sheikh, George, & Gilson, 2014). The process and relationships of components of decision-making are not well described or understood in the context of food insecurity,

particularly in the decision to engage in work to address food insecurity. To understand engagement in work to address food insecurity, a holistic approach that explores the relationships and interplay among internal and external factors is required. A conceptual model that can inform PHN practices in the context of food insecurity, a means to consider how agential, organizational arrangements, and the systemic context in which choices and actions are taken may operate to shape PHNs engagement in work to address food insecurity must be constructed. Practice guided by this model can lead to a better understanding of the factors and mechanisms that enable or constrain engagement in work to address food insecurity and facilitate potential action to strengthen PHNs engagement.

2.5 Theories to Understand Decision-Making in Complex Contexts

As indicated in section 2.4, a critique of existing conceptual models revealed that an understanding of how we might understand, plan, and manage PHNs' engagement in work to address food insecurity requires analysis within complex social, cultural, and political contexts. This section provides an overview of relevant theories that informed my understanding of how individual PHNs decide to engage in work to address food insecurity, as well as the structures and processes that shape PHNs' engagement in the context of work to address food insecurity.

2.5.1 Prescriptive and descriptive decision-making theories. Decision-making is a social process that can be understood through examination of both prescriptive and descriptive decision theories (Matteson & Hawkins, 1990; Vroom & Jago, 1974). Prescriptive decision theory proposes how rules, applied to rational individuals, help facilitate decision-making (Matteson & Hawkins, 1990). Descriptive decision theory is concerned with how decision makers actually decide, not how they ought to decide, through the discovery of the patterns, regularities, or principles in the way individuals choose in a given situation (Matteson &

Hawkins, 1990). Determinants shaping decision-making include both ‘hardware’ and ‘software’ components (Sheikh, George, & Gilson, 2014; Sheikh, et al., 2011; Topp et al., 2014).

Scholars have argued that attention to both hardware and software components are necessary when studying decision-making (MacDonald, Davies, Edwards, Marck, & Read Guernsey, 2012; Sheikh, George, & Gilson, 2014; Sheikh, et al., 2011; Topp et al., 2014). Hardware components are defined as the tangible or material resources in a health system, including for instance infrastructure, information systems, and human resources (Sheikh, et al., 2011). Software components are defined as the intangible components such as the interests, values, power dynamics and norms that shape decisions, behaviours, and relationships of actors within the system (Sheikh, et al., 2011). Scholars have suggested that a focus on the software components in the analysis of systems that include human actors, who have reflexivity capabilities and intentionality, can help draw attention to institutional influences that operate to enable or constrain behaviour and choices (Scott, 1995, 2001). Thus, in the study of understanding how PHNs engage in work to address food insecurity, theories that not only explain the how individual PHNs decide to engage in efforts to address food insecurity, but theories to understand the institutional contexts which also influence individual’s engagement are essential to draw upon.

2.5.2 Theory of reflexivity. Principles of reflexivity theory as described by Archer (2003, 2007, 2010) provide an understanding of the prescriptive dimension of decision-making. Archer (2003, 2007, 2010) focuses on ‘reflexivity’ in an attempt to get beyond a binary ‘structure or agency’ explanation for action. According to Archer (2010), reflexivity is defined as a deliberate internal dialogue, which activates the prevailing structures and processes and allows individuals to project their actions based on the articulation between personal concerns and the

structural and cultural contexts that make it possible to accomplish them. Internal conversations consist of the dialogues that people engage inwardly and through which they define and clarify their beliefs, attitudes, and goals, evaluate social circumstances, and define projects based on their main concerns (Archer, 2003).

Reflexivity theory provides an explanation of how individual choices are not completely and involuntarily determined by environmental contexts (Caetano, 2014; Mutch, 2007). Rather, decision-making can be a deliberate process aided by reflexive activity, through which self-influence is largely exercised (Mutch, 2007). Individuals' reflexive ability shows that individuals have discretion in their reaction to the circumstances that social structures and processes generate and can exert influence over what they do by the alternatives they consider, how they assess and weigh the consequences, and how they appraise their capabilities to execute the possibilities they are entertaining (Archer, 2010).

Modes of reflexivity. Modes of reflexivity act as a bridge between agency and the broader structural and institutional contexts effectively “mediating deliberately between the objective and structural opportunities confronted by different groups and the nature of people’s objectively defined concerns” (Archer, 2007, p. 61). Reflexivity does not consist of homogenous processes of internal deliberation, but rather is exercised in diverse ways depending on the relations people establish with their social contexts and their main concerns (de Vaujany, 2008). Different ‘modes of reflexivity’ illuminate how internal conversations and level of intentionality exercised by individuals lead to collisions with existing structures and thus the potential for change (Archer, 2003, 2007). Based on qualitative research, Archer (2003) defined a typology of reflexivity that describes four internal modes of deliberations: communicative, autonomous, meta, and fractured.

Communicative mode of reflexivity. Individuals displaying communicative reflexivity think while speaking to others with the goal of maintaining cohesion within their social structures (Archer, 2003). The internal conversations of communicative reflexives rely on the completion and confirmation of others before making decisions in an effort to mediate actions in the continuity of the environment. Thus, communicative reflexives contribute to the reproduction and reinforcement of existing social structures (Archer, 2003). In most cases, Archer (2003) notes that for communicative reflexivity, context influences decisions more so than individual intentionality.

Autonomous mode of reflexivity. The internal conversations of autonomous reflexives are self-contained affairs and are primarily goal-oriented (Archer, 2003; de Vaujany, 2008). For the autonomous reflexive, the individual is more independent and exercises intentionality, neither seeking nor requiring the involvement of others in their decision-making (de Vaujany, 2008). Archer (2003) remarks that this kind of reflexivity tends to mediate actions that result in structural discontinuities. Contrary to communicative internal conversations that aim at maintaining cohesion within the group and social structures, the autonomous actor's sense of opportunism is more likely to result in regular transformations of social structures (Caetano, 2014).

Meta mode of reflexivity. The internal conversations of meta-reflexives consist of critical reflections of their own internal conversations (Archer, 2003). Meta-reflexives make choices based on self-perceived moral worth of their choices and reject any form of compromise. Instead of compromising, meta-reflexives are willing to pay a high price (symbolic or material) to preserve their decisions (Mutch, 2007). This does not necessarily lead to broader change,

however, so much as to the dissatisfaction of the person with the nature of the world and their efforts in it (de Vaujany, 2008).

Fractured mode of reflexivity. Archer (2003) also suggests a misalignment in the reflexive processes: fractured reflexivity. Fractured reflexives experience difficulties in feeling like the subject of their own actions (de Vaujany 2008). The more individuals think and talk to themselves, the more emotionally distressed and cognitively disoriented the individual becomes (2003). Because internal deliberations do not allow these individuals to deal successfully with their situations, they become what Archer (2003) refers to as ‘society’s victims’. Fractured reflexives are passive agents who are at the mercy of their social environments. Although fractured reflexives have the potential to exercise intentionality, these individuals, alienated and reified into things, are the people to which things simply happen (de Vaujany, 2008).

While Archer’s theory of reflexivity provides substantive contributions to understand how individuals make decisions, a gap remains in understanding what the structures and processes are that would influence engagement. Other scholars have noted such gaps. For instance, other researchers have argued that Archer’s theory should be complemented with Bourdieu’s notion of habitus, by considering routine action in close articulation with reflexive deliberation in the analysis of decision-making (Adams, 2006; Akram, 2012, Elder-Vass, 2007; Fleetwood, 2008; Mutch, 2007; Sayer, 2010). These recommendations are in direct response to the acknowledgement of absence of social structures in determining choices and behaviour, precluding a more multi-dimensional understanding of the concept of decision-making (Fleetwood, 2008; Mutch, 2007). In light of this gap, institutional theory is used to consider the descriptive components of engagement that considers the structures and processes that serve to influence individual choice and behaviour.

2.5.3 Institutional theory. Institutional theory proposes how resilient aspects of social structures and processes influence individual decisions (DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Scott, 1995, 2001). Institutional theory considers the processes by which structures including schemas, rules, norms, and routines are repeated, given similar meaning, and widely accepted (Scott, 1995). Once institutions are established, structures and processes become ingrained in society and become taken-for-granted as ‘the way things are done’ (Scott, 1995). Agents may not be aware that these institutions are operating to regulate behaviour or how they serve to shape goals, priorities, standards of practice, and codes of conduct (DiMaggio & Powell, 1991; Scott, 1995). While institutions are often resistant to change, scholars further contend that agents possess the autonomy to make purposeful, strategic, and opportunistic choices (Scott, 1995, 2001; Topp et al., 2010).

According to Scott (1995, 2001), three institutional processes constrain behaviour and influence decisions: regulative, normative, and cognitive. These institutional processes move from the conscious to unconscious and from the legally enforced to the taken-for-granted collective meaning systems and social practices (Scott, 1995, 2001). Although defined here separately for easier understanding of the phenomenon, these three processes act in complex combinations and influence each other (Scott, 1995).

2.5.3.1 Regulative processes. Regulative processes refer to formal rules, policies, laws, regulations, and motivation tools of government or professional regulatory agencies (Scott, 1995, 2001). Regularity factors are explicit and easily recognizable and guide action through coercion and threat of formal sanction (Scott, 1995).

2.5.3.2 Normative processes. Normative processes refer to the role of values, traditional habits, informally sanctioned obligations, and rules-of-thumb, which guide action through

informal rules that structure expectations, standards of performance, and expected relationships (Scott, 1995, 2001). Behaviors are thus driven by perceived social obligations.

2.5.3.3 Cognitive processes. Cognitive processes are developed from deeper layers of culture, which guides action through shared understanding and cultural meanings. These shared conceptions that constitute the nature of social reality frames by which agents know and interpret their world (DiMaggio & Powell, 1983; Scott, 1995). Cultural meanings and frames operate by shaping understanding and perception through symbols, including words, signs, and gestures, which agents use to make decisions (Scott, 1995, 2001).

Overall, Scott's (1995, 2001) institutional theory provides a way to understand how institutions influence engagement. Regulative, normative, and cognitive processes establish the potential set of collective action options that agents perceive as viable for resolving shared problems through attaching social valence to possible choices (Scott, 1995, 2001). While Scott's institutional theory contributes to the understanding of what and how structures and processes influence individuals' engagement, a gap remains in understanding how individual intentionality contributes to the decisions made. Other scholars have similarly noted that while institutional theory provides insight to regulative, normative, and cognitive processes influencing behaviour, attention must also be given to this individual intentionality (DiMaggio, 1988; Heikkila, & Roussin-Isett, 2004; Leca, Battilana, & Boxenbaum, 2008). Together, institutional theory and the theory of reflexivity provide a more comprehensive understanding of PHNs' engagement in work to address food insecurity.

2.5.4 Integrating reflexivity and institutional theories to inform PHNs' engagement.

A better understanding of the enablers and constraints to PHNs' engagement in work to address food insecurity can identify areas for potential action to strengthen their engagement in this

regard. Theories considering how agential and structural influences may operate to shape PHNs' engagement in work to address food insecurity were relevant for a critical realist intent to research. Archer (2003) provides an explanation of individual 'modes of reflexivity', and degrees of intentionality within context influence individual decisions. Based on the notion of analytical dualism, reflexivity theory describes how different 'modes of reflexivity' illuminate internal conversations and level of intentionality exercised by individuals that lead to collisions with existing structures and thus the potential for change (Archer, 2003, 2007). In the context of PHNs' engagement, through the concept of 'modes', how PHNs engage in initiatives to address food insecurity can vary across persons. For instance, the communicative reflexive may discuss options with their colleagues before engaging in work to address food insecurity, whereas the autonomous reflexive may confirm internally that food insecurity is an issue and engage in work to address food insecurity on the spot without discussing their decision with colleagues. The meta-reflexive may wonder whether there might be better things to engage in and decide against engaging in work to address food insecurity, or the fractured reflexive will struggle to engage either way. In this conceptualization, it is evident that there are different degrees of intentionality exercised by mode of reflexivity.

Scott's (1995) Institutional theory provides a complimentary explanation about contextual regulative, normative, and cognitive institutional processes that constrain behaviour and influence engagement. These institutional processes move from the conscious to the unconscious. Regulatory processes potentially relevant to the engagement of PHNs and their organizations include standards of practice and codes of ethics. Normative processes are potentially reflected in public health units' professional mandates, intra-professional relationships, and collaborative partnerships, which would potentially influence PHNs'

engagement. Cognitive processes potentially relevant to PHNs' engagement include beliefs about why food insecurity issues exist and their roles in addressing food insecurity.

2.6 A Conceptual Model for PHNs' Engagement in Work to Address Food Insecurity

In the preceding discussion, I propose a model to inform PHNs' engagement in work to address food insecurity. The conceptual model, which is presented in Figure 2.1 below, illustrates the complexities and challenges associated with clinical practice in regard to PHNs engagement in work to address food insecurity. Moreover, it underscores the gap of a comprehensive conceptual model to help illuminate elements to guide the examination of PHNs' engagement in work to address food insecurity and the interventions PHNs may implement within this context.

The development of this conceptual model served as a starting point for conceptualizing this emergent area of nursing practice in addressing food insecurity and ensured this case study research captured the various dimensions of PHNs' engagement in work to address food insecurity. The conceptual model illustrates the relationships of key dimensions and related concepts inherent to public health nursing practice in the context of food insecurity considering agential and complex sociopolitical contexts identified in the synthesis of literature, existing conceptual and theoretical models specific to addressing other SDH, and relevant theories as described in the preceding sub-themes. The model maps the scope of the study including: (a) the nature and scope of PHNs' engagement in work to address food insecurity; (b) the perspectives and beliefs that PHNs held about how prevailing structures and processes influencing engagement; (c) the vulnerability context (i.e., from related professional, legal, social, economic, political, and ecological systems) in which engagement in work to address food insecurity was done; and (d) the interplay of context, structures, processes, and agents that influenced if and

how PHNs engage in work to address food insecurity. The model and the associated concepts were useful in understanding the enablers and constraints to engagement, and areas for potential action necessary for PHNs' engagement in work to address food insecurity. As Creswell and Poth (2018) note, qualitative research is:

an intricate fabric comprising minute threads, many colours, different textures, and various blends of materials. This fabric is not explained easily or simply. Like the loom on which fabric is woven, general assumptions and interpretive frameworks hold qualitative research together (p. 41).

The dimensions *Societal Context, Structures and Processes, Agency, Determinants of Food Insecurity, Strategies to Address Food Insecurity, Interventions to Build Capacity for Action, and Food Security Outcomes* were demonstrated in the review as complex and interrelated entities that overlap each other. Within each of these dimensions are the more specific concepts identified in the review. It is recognized that these also overlap and are interrelated with other dimensions and concepts. The key dimensions and related concepts and elements are described in detail below.

2.6.1. The societal context. The societal context represents the external environment (e.g., the broader social, political, cultural, and economic context at all system levels [local, regional, provincial/territorial, or federal]) that influences both circumstances leading to compromising conditions that contribute to the development of food insecurity and PHNs' ability to address it. The societal context includes shocks and trends, which can act as barriers or facilitators for both realizing food security and for engagement in work to address food insecurity. Shocks are sudden or short-term events that can harm or destroy assets for food security or engagement in work to address food insecurity. Trends are slower contextual events affecting the ability to acquire assets for food security or for engagement in work to address food insecurity. There is a need for a mix of assets (e.g., physical, social, cultural, natural, financial,

human, political) to counteract compromising conditions that contribute to the development of food insecurity and PHNs' ability to address it. Through the development and accumulation of assets, individuals, families, and communities can develop their capacity to meet their food security needs and PHNs can adequately engage in work to address food insecurity.

2.6.2 Structures and processes. Structures, including public health units', government, civil society organizations, and private sector organizations infrastructure (such as its information systems and human resources), and processes (which are informed by Institutional Theory), including laws, policies, and culture, that can mediate the effects of the societal context on the ability to acquire food assets and/or the engagement in work to address food insecurity. It is possible to examine PHNs' engagement in work to address food insecurity in terms of the societal context, along with the structures and processes affecting them.

Regulative, Normative, and Cognitive Processes. Refers to the complex combination of three institutional processes that constrain behaviour and influence engagement. These institutional processes include conscious and unconscious, legally enforced, and taken-for-granted collective meaning systems and social practices. The regulative pillar refers to formal rules, policies, laws, regulations, and motivation tools of government or professional regulatory agencies, which guide action through coercion and threat of formal sanction. The normative pillar refers to values, traditional habits, informally sanctioned obligations, and rules-of-thumb, which guide action through informal rules that structure expectations, standards of performance, and expected relationships. The cognitive pillar refers to the deeper layers of culture, which guide action through shared understanding and cultural meanings. These shared conceptions that constitute the nature of social reality frames by which agents know and interpret their world.

2.6.3 Agency. Agency refers to PHNs. PHNs are defined as registered nurses who work for public health units. Agencies' engagement is influenced by mode of reflexivity and level of knowledge and skills.

Mode of reflexivity. Mode of reflexivity refers to internal conversations and level of intentionality exercised by PHNs, which lead to collisions with existing structures and processes and thus the potential for engagement in work to address food insecurity.

Knowledge and skills. Refers to knowledge about issues related to food (in)security, including: how food (in)security is defined and measured; prevalence of food insecurity and those most at risk in their community/region; current social and economic policies that influence food (in)security; current initiatives in their community/region for food security; potential partners with whom to collaborate; public opinions regarding desired policy changes; and the political dynamics of their community/region that may either hinder or facilitate engagement to address food insecurity. Skills refer to the practice with the concepts and principles related to advocacy for healthy public policy.

2.6.4 Determinants of food insecurity. The interplay between structural and intermediary determinants that leads to vulnerability to compromising conditions that contribute to food insecurity. Also includes the food system from production, to distribution, to waste.

2.6.5 Strategies. Engaging in work to address food insecurity can lead to individual-focused (efficiency), community-focused (participatory/transitional), and system-focused (redesign) strategies to address food insecurity. The strategies chosen are not prescriptive but are shaped by the societal context, structures, processes, and agency. Given that strategies chosen are shaped by the societal context, structures, processes, and agency, interventions to build capacity may need to precede these strategies to address food insecurity.

2.6.6 Community food security outcomes. Community food security outcomes are the result of the interaction of all the elements in the model. Community food security outcomes can lead to the identification of indicators or an organizing framework for existing indicators, which can be used to plan and assess the impact of individual-, community, or system-focused strategies. Outcomes for community food security can include, for example, the acquisition and consumption of healthful foods in socially acceptable ways, reduction of nutritional vulnerability, positive attitudes toward food preparation, retention and sharing of cultural food knowledge, sustainable food production methods, and effective social policies.

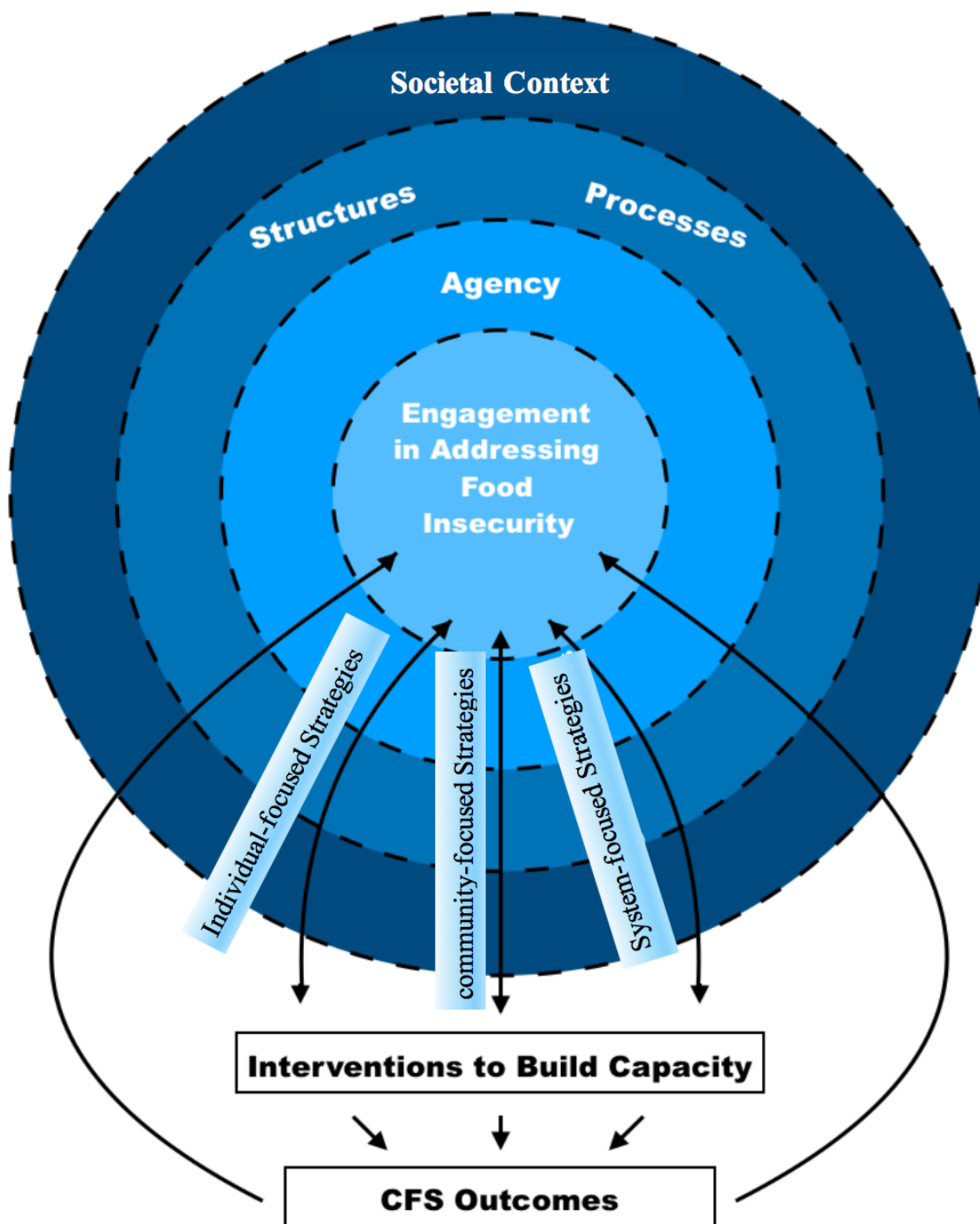


Figure 2.1: *Conceptual model to understand PHNs' engagement in work to address food insecurity.*

2.7 Summary

In this chapter, I have reviewed literature pertinent to PHN practice. This review indicates that considerable intricacies of public health organizations and their systemic environments both facilitate and inhibit PHNs' engagement in initiatives to address SDH, especially in policy development and advocacy. The findings from this review challenge us to consider how we might understand, plan, and manage PHNs engagement in work to address food insecurity within complex decision contexts. To understand PHNs' engagement in efforts to address food insecurity, a holistic approach that explores the relationships and interplay between context, structures, processes, and agency is required.

Understanding PHNs' engagement in work to address food insecurity also requires attention to the dynamic of their relationships and partnerships. The findings indicate that organizations face particular challenges when addressing complex social and health policy issues that require partnerships and effective collaboration between all levels of the government, with civil society organizations, and with other key stakeholders (Seed et al., 2013). Albeit recent reports suggest PHNs specifically should have a stronger presence in advocating for food security, none of the literature thus far has explored or explained how PHNs engage in work to address food insecurity or the influences of their engagement within these intricate contexts.

Overall, this conceptual model offers a depiction of concepts and their relationships regarding PHNs' engagement in work to address food insecurity. The conceptual model provided a guide for the development of this case study and analysis about how PHNs engage work to address in food insecurity.

Chapter Three : Theoretical Perspectives

This chapter presents the philosophical assumptions and theoretical perspectives that informed this research on how PHNs engage in work to address food insecurity. In the conduct of scientific inquiry, researchers are guided by systems of belief by which they generate and interpret knowledge about reality (Guba & Lincoln, 1994). These systems of belief, or paradigms (Lincoln & Guba, 1985), can be defined by answers to two sets of questions involving ontology and epistemology. Ontology refers to our understanding about the nature of reality while epistemology is our set of beliefs about the nature of knowledge (Schultz & Meleis, 1988).

The core ontological and epistemological tenets of critical realism resonate for me and provide relevant philosophical underpinnings for this research on understanding PHNs' engagement in work to address food insecurity. I begin the chapter by providing a description of the tenets of critical realism that guided the study. Contributions of a critical realist approach using theories that helped explain the interaction between agency and structure to food (in)security work and dialogue, including implications on PHNs' engagement in work to address food insecurity, are explained. I conclude this chapter with the presentation of a pictorial that helped guide this research project.

3.1 Critical Realism: An Alternative Ontology in Nursing

Knowledge in nursing has been developed primarily under two broad ontological dispositions: realism and relativism (Schultz & Meleis, 1988). Realist ontology supports the belief that there is a reality independent of the knower and is based on the philosophy that our preconceptions need to be set aside in order to identify objective facts based on empirical observation (Guba, 1990). This resonates with nursing as a discipline that is informed by knowledge from the natural and social sciences (Schultz & Meleis, 1988; Wainwright, 1997).

Conversely, relativist ontology supports the belief that there is not a reality independent of the knower. Relativists believe that multiple realities exist based on the understanding that individuals have unique perspectives, meanings, and understandings of phenomena in relation to their historical and cultural contexts (Guba & Lincoln, 1994). This associates with nursing as a discipline that is sensitive to and respects individual holism, communities, and context (Schultz & Meleis, 1988; Wainwright, 1997). Realist and relativist positions shape beliefs about the nature of social constituents: humans and the environments in which they live (Schultz & Meleis, 1988).

Critical realism is a philosophical perspective that has emerged in nursing (Clark, Lissel, & Davis, 2008; Hussey, 2000; McEvoy & Richards, 2006; Wainwright, 1997) as an alternative to the extremes of realism and relativism (McEvoy & Richards, 2003; Outhwaite, 1987). Taking a middle ground, critical realists do not reduce the world to unknowable chaos or a positivistic universal order, nor does it place objective truth-value on the perspectives of human beings or remove the influence and importance of human perspectives.

How we understand, plan, and manage PHNs' engagement in work to address food insecurity within complex decision contexts required a holistic approach that was best met by critical realism. A critical realist approach confronts complexity and acknowledges the importance of both agency and structural factors. Critical realists aim for both idiographic (understanding the uniqueness of an individual case) and nomothetic (identifying and explaining patterns found in a population) explanation (Collier, 1994). Critical realists are interested in explaining 'how' and 'why,' which leads to attempts to discover the powers at play at various levels of reality. Explaining social structures and agency provides opportunity to expose power imbalances, ideologies or traditions that exist (de Souza, 2013) and a necessary step to

demonstrate “the place of human acts in the reproduction of social structures and relations that stand in the way of emancipation” (Ackroyd & Fleetwood, 2000; p. 23). Examining how PHNs are engaging in work to address food insecurity through a critical realist lens thus provided a way to critique and produce explanations of social institutions as a precondition for the deconstruction of dominant ideology subsequent to PHNs’ subversion (de Souza, 2013). An analysis of PHNs’ engagement in work to address food insecurity from a critical realist perspective is missing from the literature.

3.1.1 Intransitivity tenet: the existence of independent social and physical reality.

Intransitivity concerns domains of knowledge and what is knowable through science (Bhaskar, 2008). Critical realism views physical and social reality as having independent existence irrespective of human knowledge or understanding, resulting in distinct domains of knowledge (Archer, 1998). The intransitive domain refers to the objects of science in the sense of the things we study, including social structures and processes, which exist and operate independently of human beings and their ability to perceive it (Bhaskar, 1978; Nairn, 2012). ‘Structures’ refer to public health units, government, civil society, and private sector organizations infrastructure (such as its information systems and human resources). ‘Processes’ are less tacit and include human behaviors, laws, policies, and culture.

The transitive domain refers to the nature of knowledge gained about intransitive entities, which are constantly subject to reinterpretation and revision, and includes theories, paradigms, and meaning produced by human activity (Archer, 1998). Knowledge is shaped by the conceptual frameworks within which researchers operate and is open to challenge and subject to change on theoretical and empirical grounds (McEvoy & Richards, 2003). This means there may

be conflicting theories about the same phenomena, as there are different ways to come to know different realizations about the world.

Judgmental rationalism. The distinction between the intransitive and the transitive domains demonstrates that the world cannot be conflated with our experience of it. Distinguishing the dimension of ontology from that of epistemology is essential if there are to be shared reference points for making rational judgments between alternative theories (Bhaskar, 1998). If the distinction between ontology and epistemology is not upheld, the idea of a rational choice between incommensurable theories will render problematic and will encourage skepticism about the existence of a theory-independent world (Bhaskar, 1998).

The critical realist perspective on the value of various knowledge claims finds its roots in the work of Habermas (1971). For Habermas (1971), people relate to the world and one another through three forms of knowledge, which then determines the mode for discovering knowledge. Empirical/analytical knowledge is produced by following a set of standardized technical rules, which aims to develop theories of causal relationships for the purpose of increasing human ability to predict, control, and manipulate (Habermas, 1971). Historical hermeneutic knowledge is lived experience acquired through dialogue and information sharing among members of a community (Habermas, 1971). Community members exchange information and actions are supported by common experience, tradition, history, and culture (Meleis, 2012). Critical or emancipatory knowledge is produced through reflection (Habermas, 1971). Reflexivity provides a means to comprehend the conditions of human action that derive from powerful socioeconomic and political forces in society (Meleis, 2012). Further, Habermas (1971) argued that no one form of knowledge should be considered more important over another, as each informed various levels of reality.

The support of different knowledge does not mean all knowledge is deemed to be equal and valid in the sense that there can be no rational grounds for privilege of any one form of knowledge (Collier, 1994). According to critical realists, knowledge is valued not by how it is produced, but on its explanatory power about social reality (Collier, 1994). The only legitimate reason for judging one form of knowledge or theory superior to another is the theory's ability to better describe the phenomena under study, which may reflect the level of reality at which the phenomena is identified (Bhaskar, 2008). Recognizing that knowledge is fallible means that critical realists are skeptical of generalizations about causality based solely on empirical inquiry. Therefore, critical realists rely on the combination of empirical investigation with theory construction through engagement with community members and through acts of reflexive interpretation for deeper understanding (McEvoy & Richards, 2006; Shultz & Meleis, 1988; Wainwright, 1997).

Consider, for example, a PHN who sincerely believes he or she does not have the responsibility to address food insecurity. In critical realist terms, the individual can be judged to be wrong on the basis of recourse to wider evidence, such as professional mandates and job descriptions, professional opinions, and beliefs of public health professional's role in issues of health inequity and social injustice. It remains important, especially in nursing, that the PHN's representation of his or her situation has intrinsic subjective value. This is likely, for example, to influence PHNs' emotions and engagement in work to address food insecurity. However, in epistemological terms, other evidence indicates that the PHN is highly likely to be wrong. Hence, the perspectives of the PHN, other public health professionals and managers, and those derived from other data make claims to truth, which like those from witnesses in a courtroom trial, have to be reconciled, weighed and ultimately judged regarding their reliability and what

they say about reality (Clark et al., 2008). Here, then, is an acknowledgement of the value of multiple data sources relating to the same phenomena (McEvoy & Richards, 2006) as well as recognition of the need to reconcile these perspectives and any claims made against each other (Clark et al., 2008).

3.1.2 Stratification tenet: a stratified emergent generative ontology. Stratification derives from the answer to an overarching question posed by critical realists, which marks their starting point for knowledge production: what must reality be like to make the existence of science possible (Bhaskar, 1978)? The belief that underlying structures that are real and have processes that produce events, which may or may not be empirically observable, necessitates investigations into the structures mediating these processes to understand how they produce their events and under what conditions (Outhwaite, 1987). These underlying structures and processes are as real as the observable effects and outcomes they cause.

The nature of the depth of realism proposed in critical realism suggests that the *real*, the *actual*, and the *empirical* make up three overlapping domains of reality (Collier, 1994). The domain of the real includes whatever exists, regardless of whether it is an empirical object or knowable (Collier, 1994). The real domain comprises structures, processes and generative mechanisms/powers. The term ‘generative mechanism’ is used as a technical term to denote the powers and their interactions inherent in physical and social structures, which allow for reproduction or transformation in a given context (Pawson & Tilley, 1997). The actual domain refers to what happens if and when these structures and processes (belonging to the domain of the real) are activated, to what those powers do, and what eventuates when they do (McEvoy & Richards, 2006). The events that occur may be experienced or knowable (Collier, 1994). The

empirical is simply what a person perceives from their senses; that is what is experienced (Collier, 1994).

Stratification is possible through the understanding of the 'emergent' relationship between human beings (agency) and social structures (Archer, 1995). Emergence means that there is some lower level out of which something has arisen that, although dependent upon that lower level, is not predicable from it or reducible to it (Clark et al., 2008). Understanding the complex interplay between agency and structural factors is important for the nursing disciplines' longstanding holistic focus on both individual and contextual factors that influence health (Clark, MacIntyre, & Cruickshank, 2007).

According to Archer (1995), the relationship between agency and social structure is a two-way process, where social structures exist, are sustained, or are transformed because of human behaviour, while human behaviour is enabled or constrained by the society in which they live. Although the existence of both agency and social structures is based on their interplay, they are independent and irreducible to one another, each possessing different properties and powers inherent in their nature. Archer (1995) further argued that social structures are real in the sense that they pre-exist individuals. Thus, we live with the legacy of structural conditions that are inherited from the past for which human action can reproduce or transform (Archer, 1995). Therefore, an understanding of PHNs' current level of engagement in work to address food insecurity required a necessary historicity (however short the time period involved) instead of horizontal explanations relating one experience or observable event to another. The fact that these observable events themselves are conditional upon antecedents, required vertical explanations in terms of the relationships indispensable for their realization. Vertical explanations are equally necessary to account for the systematic non-actualization of non-events

and non-experiences. Ontological depth necessarily introduces vertical causality, which simultaneously entails temporality (Archer, 1998).

3.1.3 Transfactuality tenet: understanding causation in an open-system.

Transfactuality concerns the conceptualization of causation; it provides the ontological foundation upon which social phenomena (real events) can be studied irrespective of outcomes (Archer, 1998). When understanding causation, it is important to not misalign the actual, real, and empirical domains. Human observations and perceptions in the empirical domain are fallible representations of the real and actual domains that are prone to incompleteness and inaccuracy in perception and inference (Archer, 1995). PHNs' experiences in public health units, for example, differed. Similarly, my way of understanding and explaining the phenomena of PHNs' engagement in work to address food insecurity will be different from other researchers and will continue to be revised in other studies. Dimensions of the empirical domain, therefore, should never be taken to be synonymous with those in the actual and the real domain. Phenomena in the real domain may not be visible or exercise influence on the actual domain at any one point in time (Archer, 1995). Yet, under the right context, the power of these structures, processes and their generative mechanisms in the real domain can become active and influential. Pawson and Tilly (1997) summarized the outcome dependency of generative mechanisms as 'context + mechanism = outcome.'

There are four possible outcomes of the generative mechanisms in regard to context. One possible outcome is the powers of the generative mechanisms are exercised, and through scientific inquiry are discovered. A second possibility then is a generative mechanism is present, but is lying dormant until the right combination of conditions occurs. A third possibility is a generative mechanism is present but countervailed by other mechanisms in operation and thus

never actualized. A final possibility is the generative mechanism exercises their power without being perceived (Archer, 1998). My belief that social phenomena and events have underlying structures (which interact with agency and reflects a point of time that changes over time depending on context), which may or may not be empirically observable, was not a matter of observing and recording regular experiences that recurred, but necessitated the much more demanding task of getting at what generated these events by investigations into these structures, interactions, and contexts to understand how social reality came to have their events and under what conditions produce them (Archer, 1995; 1998; Collier, 1994; Outhwaite, 1987).

Because the social world is an open system, multiple generative mechanisms operate simultaneously and outcomes of mechanisms display variability (Benton & Craib, 2001; Nairn, 2012). However, the activities of mechanisms are continuous and invariant, stemming from relatively enduring properties and powers (Archer, 1995). In critical realist terms, this does not mean causality is linear in the sense that event A must cause event B if A precedes B regularly; an approach that infers causation from regular sequences of events (Pawson & Tilley, 1997). Rather, critical realists view events as being a product of many factors coming together in certain combinations and given the right circumstances or context to generate new events.

Understanding of how PHNs make decisions (such as engaging in work to address food insecurity in the current study), therefore, was not based only on observation of the regular movements in a public health office but necessitated a deeper exploration of underlying forms of influence and contexts in which PHNs work. Hence, events in the actual domain are generated from complex interactions of factors in the real domain. To explain why phenomena occur, I, therefore, needed to go beyond the surface observable factors (the actual) to explore what was happening underneath (the real).

To understand outcomes and patterns, researchers need to examine regularities in the world, but also must search for explanations beneath these patterns to account for why they did or did not occur. This does not reduce the world to chaos; rather, the world is complex and somewhat patterned. This notion is in the critical realist term “demi-regularity” (Lawson, 2003), which is:

The occasional, but less than universal, actualization of a mechanism or tendency, over a definite region of time-space. The patterning observed will not be strict if countervailing factors sometimes dominate (but)...there is evidence of relatively enduring and identifiable tendencies at play (p. 204).

Such tendencies are familiar to nursing—found in fields such as health inequalities, cardiovascular risk, patient infections, etc.—in which enduring and consistent patterns are evident but not always predictable or persistent. Therefore, in the search to identify causes, researchers must understand outcome patterns, not outcome regularities (Pawson, 2006). Given the ontological premises, I am interested in identifying social patterns of behaviour and investigating what social structures and processes exist for those patterns to occur (Porter & Ryan, 1996).

3.1.4 Analytical Dualism. Analytical dualism is described as the need to maintain a separation between agency and structure in order to examine the complex interrelationships that shape each (Archer, 1995; 2000). This reflects long debate in the social sciences of the relative importance of individual (“agency”) factors (such as beliefs, attitudes, and personal meanings) and contextual (“structural”) factors (such as social norms, culture, geography, and environment), as well as the argument that this weight of research must be considered (Archer, 1995). The influence of both of these types of factors are recognized in nursing (Clark et al., 2008). This may be due to nursing’s longstanding holistic focus or the strength of evidence that both individual and contextual factors affect health (Wilkinson & Marmot, 2003).

Considering these two entities as distinct and autonomous, Archer (2003) proposed the notion of analytical dualism in order to problematize the relationship between structure and agency, advocating the ontological primacy of the former over the latter. Analytical dualism is necessary for human agents' creative capacity to distance themselves cognitively from the objective social and cultural circumstances, in order to critically see and elaborate on these structures and processes (de Vaujany, 2008).

The possibility of analytical dualism is based on two notions from critical realism. First, analytical dualism is possible because agency and structure operate on different timescales (Archer, 1995). At any particular moment, antecedently existing structures enable and constrain agents, whose interactions produce intended and unintended consequences, leading to structural elaboration and the reproduction or transformation of the initial structure (Archer, 1995). The resulting structure then provides a similar context of action for future agents. Likewise, the initial antecedently existing structure is itself the outcome of structural elaboration resulting from the action of prior agents (Archer, 1995). Therefore, by isolating structural factors, which provide a context of action for agents, it is possible to investigate how those factors shape the subsequent interactions of agents and how those interactions in turn reproduce or transform the initial context (Fleetwood, 2008).

Secondly, analytical dualism is possible because agency and structure have their own causal powers, and though inter-dependent, are not reducible to one another (Archer, 1995). Rather, social reality can be viewed as stratified between several different levels in order to analytically distinguish agency from structure, while also distinguishing the different elements that exist within both the mental constitution of the agent and structure (Archer, 2003). Each level or reality should be considered analytically distinct if it is to be possible to understand their

respective influence and inter-relationship with other levels (Caetano, 2014). The engagement between agency and structure is not viewed as an a priori inevitability, as the two are not one and the same (Archer, 2007). Therefore, there must be a mediator or a bridge that facilitates the engagement between the two (Caetano, 2014).

3.2 Critical Realism and PHNs' Engagement in Work to Address Food Insecurity

My personal beliefs are congruent with the ontological premises of critical realism (Archer, 1995). I believe social reality exists in the form of underlying structures that include observable and less tacit forms of influence. I believe social reality is created through interactions with agency and thus reflects a point in time that changes over time depending on the context. Figure 3.1 offers a pictorial to show the relationship of how a social phenomenon or event may be realized through the complex relationship between structure, agency, and context. This ontological position was important to the study of PHNs' engagement in work to address food insecurity (social phenomenon) because it guided exploration and critique of structures that influence how PHNs engage in work to address food insecurity. I exposed the various conditions that enabled and constrained PHNs' actions by gaining understanding about the complex social, economic, political, and psychological factors that influence work to address food insecurity.

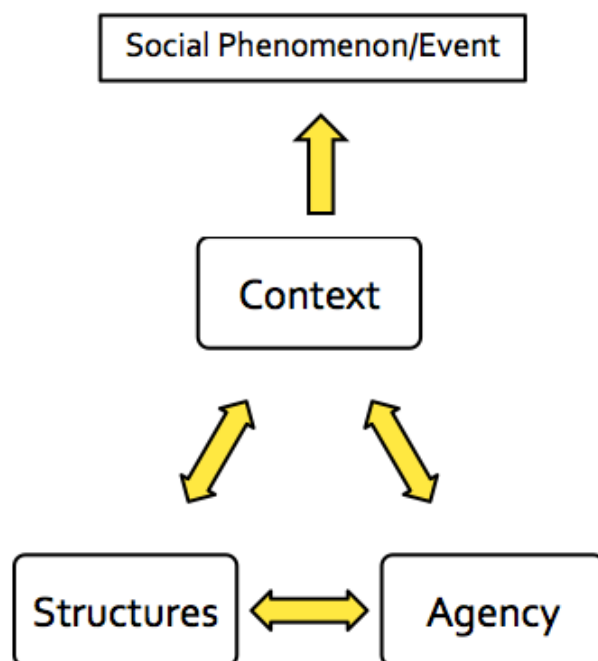


Figure 3.1: Ontological assumptions of critical realism: dimensions of social reality.

From a critical realist perspective, gaining knowledge about social reality is historically and socially mediated (value-laden), fallible, and only partially understood (Archer, 1995, 1998). Understanding what and how conditions or structures operated to influence PHNs' engagement required a critical exploration of the operation of the practices in terms of the observable events (i.e., knowledge used, strategies employed), but went beyond to explore the less tacit forms of influence (i.e., operation of prevailing ideologies, values, rules, positions). Explaining the interactions that agency had with these structures that give rise to events or situations exposed factors that influence PHNs' engagement in work to address food insecurity.

3.3 Summary

The tenets of critical realism provided a basis for understanding reality in the world, which had important implications for the study of PHNs' engagement in work to address food insecurity. Critical realism is congruent with the purposes and values of practice-based

disciplines that must, by nature, address issues in the complex other (Clegg, 2005). PHNs' engagement in work to address food insecurity, for instance, occurred within a complex context whereby a dynamic interplay of context, structure, processes, and agents influenced if and how PHNs addressed food insecurity.

This research, guided by the tenets of critical realism, created an empowering and emancipatory environment for the study participants and informed my analysis in various ways. First, PHNs in the study sample shared their stories and had their voices heard. PHNs participated in validating the key findings and added to my analysis as well as influenced recommendations from this study. Second, I looked beyond participant stories and what was observable to uncover less tacit forms of reality influencing PHNs' engagement in work to address food insecurity. I paid attention to relations of power at various levels of reality, explaining less tacit, or underlying, conditions that both enabled and constrained PHNs - who were acting on behalf of public health organizations - engagement in work to address food insecurity. Engagement was identified by investigating the necessary role of the complex social, economic, political, and psychological structures and processes that served to both enable and constrain endeavours by PHNs. Isolating and explaining the prevailing structures and processes that influenced PHNs' engagement in work to address food insecurity can expose power imbalances, ideologies, and traditions that exist, which is a precondition for change. By isolating and explaining the structures and processes, which provided the context of engagement for PHNs, it was possible to investigate how the current context shaped the subsequent level of engagement of PHNs and how their current engagement in turn reproduced, rather than transformed the initial context (Fleetwood, 2008).

Critical realism informed my analysis a third way, as all explanations of reality were treated as fallible, which was particularly useful for this change-oriented research in which participants offered competing explanations of a phenomenon. Participants' experiences and understanding build on existing scientific knowledge and theory about PHN roles. Finally, this philosophical approach allowed me to set the stage for identifying strategic opportunities to further engage PHNs in work to address food insecurity, ones that lead to better understanding of the factors that enable and constrain PHNs' ability to address food insecurity, across sectors and levels of governance in NS, while providing insights for work in other jurisdictions and thus areas for potential action to enhance PHNs' engagement in work to address food insecurity.

Chapter Four : Research Methodology

This chapter presents the research methodology for this study. This was a qualitative research design guided by Yin's (2014) approach to case study. I begin with an explanation of the commensurability between Yin's (2014) approach to case study and critical realism. An overview of the qualitative research design and a description of Yin's (2014) approach to case study design follows. Details about the case selection, study setting, sampling and participant recruitment, as well as methods for participant protection and ethical consideration are described. Data collection methods (e.g., in-depth individual interviews, document review) are presented, followed by a description of the selected data analysis method (e.g., Framework analysis, matrix construction). I end the chapter with a presentation of the measures that were taken to ensure trustworthiness of data.

4.1 Yin's Approach to Case Study Commensurable with Critical Realism

Yin's (2014) approach to case study aligns with the philosophical tenets of critical realism, which provided a comprehensive and coherent lens for gaining knowledge about public health nursing problems. Table 4.1 provides an overview of the relationship between key principles of critical realism and qualitative case study methodology. Reflecting on the assumptions about reality and how to gain knowledge about reality that can, and do, underpin methodology is essential (Angus & Clark, 2012; Clark et al., 2008; Hussey, 2000; McEvoy & Richards, 2003; 2006; Wainwright, 1997). Developing an internal coherency in scholarship is essential because it serves to distinguish a health research project by its distinctive aims, assumptions, and strengths, thus offering "greater clarity about the nature of the phenomenon to be explored, the questions posed, and the ways researchers answer questions and communicate their findings" (Holloway & Tordres, 2003, p. 347). Such clarity, anchored as it is

paradigmatically, is also necessary to effectively evaluate the quality of any given research project (Guba & Lincoln, 1994). Failing to reflect on underlying philosophical assumptions can result in work that lacks wider credibility, is inadequately justified, and lacks internal coherence (Holloway, & Todres, 2003).

Table 4.1: *Relationship Between Principles of Critical Realism and Qualitative Case Study*

Methodology

Principles of Critical Realism (Archer, 1995)	Qualitative Case Study Methodology (Yin, 2014)
Ontological	
Social reality exists — but reflects a point of time and changes over time based on context.	Case study provides investigation of a phenomenon bounded within a specific time frame.
Underlying structures and interactions with agency in contexts can change the nature of social reality.	<p>Case study allows exploration of a contemporary issue within its natural setting when boundaries between phenomenon/event and context are not clearly evident.</p> <p>Embedded-case design allows exploration of a variation among different sub-units and their context that can lead to insight about key structures influenced resultant social phenomenon/event.</p> <p>Case study supports the use of triangulation to provide a way to better understand what and how structures operate and interact with agency to influence phenomenon/event.</p>
Epistemological	
Gaining knowledge about social reality is historically and socially mediated.	Case study supports the use of gaining knowledge through a qualitative approach to understand different perceptions of reality.
Understanding what and how structures operate to influence social phenomenon/events requires exploration of observable and less tacit forms of influence.	Case study supports the use of triangulation to explore both the observable and less tacit forms of influence.

Critical realist researchers have identified Yin's (1994, 2003, 2009, 2014) approach to case study methodology as the best approach to explore the interactions between structure, events, actions, and context to identify and explicate a phenomenon (Ackroyd, 2010; Easton, 2009; Miles & Huberman, 1994; Wynn & Williams, 2012). A case study is "an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin, 2014, p. 16). By focusing on a "sustained consideration for activities and behaviour in a particular location" (Ackroyd, 2010, p. 535), the case study inquiry "copes with the technically distinctive situation in which there will be many more variables of interest than data points, and [...] relies on multiple sources of evidence, with data needing to converge in a triangulating fashion" (Yin, 2014, p. 17). For the purpose of studying complex, contemporary problems relevant to public health nursing and the contextual factors that combined to generate them, case study is well suited to conduct research from a critical realist perspective.

4.2 Research Design

The commensurability between Yin's (2014) approach to case study with a critical realist epistemology facilitates the development of both quantitative and/or qualitative methodologies, which may otherwise not be available should a researcher take an absolute positivist or interpretivist approach (McEvoy & Richards, 2006). Quantitative and qualitative methodologies are usually presented as contrasting approaches and are often associated with positivist and interpretive paradigms, respectively (Creswell & Poth, 2018). Quantitative research is a mode of inquiry used often for deductive research. The goal of quantitative research is to test theories or hypotheses, gather descriptive information, or examine relationships among variables (LoBiondo et al., 2013). Variables are measured and yield numeric data that can be analyzed statistically.

Qualitative research focuses on the contexts and meaning of human lives and experiences for the purpose of inductive research or theory-development (LoBiondo et al., 2013).

A qualitative methodology was selected for this research study because understanding PHNs' engagement in work to address food insecurity is complex and had to be explored in depth within their natural context, with the voices of PHNs and other key stakeholders at the center (Creswell & Poth, 2018). Given their diverse backgrounds and experiences, and the belief that varying vantage points yield different types of understanding, the PHNs and the other stakeholders who participated in the research had many valuable perspectives and all themes are reported with supporting quotes as evidence (Creswell & Poth, 2018). Qualitative research varies in ontological stances. As a critical realist, I sought understanding of how PHNs engage in work to address food insecurity in the context of prevailing structures and processes that contributed to the problem. This standpoint is well aligned with qualitative research (McEvoy & Richards, 2006).

4.2.1 The qualitative holistic case study approach. The specific methodology for this exploratory research was a qualitative holistic case study approach as described by Yin (2014). This approach was justifiable for several reasons. Exploration of an understudied area of research supported the use of a qualitative case study (Yin, 2014). Yin (2014) defines case study as “an empirical inquiry that investigates contemporary phenomena within its real-life context, especially when the boundaries between the phenomena and context are not clearly evident” (p. 18). Furthermore, case study is the preferred strategy when asking ‘how’ and ‘why’ questions (Yin, 2014). This case study design facilitated an in-depth exploration and description of the nature and scope of how PHNs engage in work to address food insecurity and the factors influencing their engagement. An in-depth exploration of PHNs' engagement in work to address

food insecurity requires gathering and convergence of data from multiple sources, another hallmark of case study research (Yin, 2014). In keeping with the principles of qualitative tradition, the study investigated PHNs in their ‘natural’ organizational settings, to enhance recall of how PHNs engage in work to address food insecurity.

The purpose of a holistic case study was to provide a nuanced, empirically-rich account about how PHNs engage in work to address food insecurity and the structures and processes that enable and constrain PHNs’ engagement in this regard (Gerring, 2007). The qualitative holistic case study approach allowed me to gain access to the types of information, including spoken, written, and observed, which collectively informed an understanding about both the observable and the less tacit forms of reality influencing PHNs’ engagement in work to address food insecurity. More specifically, an understanding of the structures and processes that shaped engagement was gained through the experiences of those who lived it and organizational materials that documented it and provided a wide range of perspectives.

4.2.2 Case selection criteria. To explore this social phenomenon of PHNs’ engagement in work to address food insecurity, I selected a case with the following criteria: (a) a province with a high rate of food insecurity (NS has the highest provincial rate of food insecurity [Tarasuk et al., 2016]); and (b) public health units involved in work to address food insecurity determined during the completion of a primary health care practicum component of a Master’s level course at the NCCDH in Antigonish, NS². The boundaries for the case included: (a) municipal location (geographic/place); (b) involvement in addressing food insecurity (behavioural); and (c) between

² The primary health care practicum at the NCCDH in 2014 consisted of assisting the FoodARC team involved in the ACT for CFS initiative to develop and pilot a draft interview guide about community food security that assessed the knowledge, practices, and experiences of PHNs in Nova Scotia.

2010 and 2018 given that PHNs' engagement in work to address food insecurity within public health services emerged during this time frame (time).

4.3 The Setting: The Case

The study was conducted in Northeastern NS, which is composed of three different counties, including: (a) Antigonish County; (b) Guysborough County; and (c) Richmond and Inverness Counties. Situated on Canada's Atlantic shore, NS is Canada's second smallest province, in both area (55,284 km²) and population (923,598; Statistics Canada, 2017a). The Northeastern region of NS's population is considered to be rural, communities with a population of less than 1,000 and outside areas with 400 people per square kilometer (Statistics Canada, 2011), and elderly, with more people over the age of 65 (19.9%) than in any other Canadian province (Statistics Canada, 2017b).

According to the last available census information (2011), approximately 33,845 people in NS self-identified as having an Aboriginal identity; making up 4% of the province's total population (Statistics Canada, 2016). The vast majority of these people are Mi'kmaq with approximately 16,245 registered to Mi'kmaq First Nations in NS, of whom 10,343 (63%) live on reserve (Office of Aboriginal Affairs, 2015). There are 13 Mi'kmaq First Nations communities in NS, three of which are located within the study setting (Office of Aboriginal Affairs, 2015). Paqtnkek Mi'kmaw Nation (population 540) is located in Antigonish County, Potloteck First Nations (population 596) is located in Richmond County, and We'koqma'q First Nation (population 847) is located in Inverness County (Office of Aboriginal Affairs, 2015).

4.3.1 Antigonish County. Located in the Northumberland Strait, Antigonish County covers 1,457.99 km² with a population of approximately 19,301 (Statistics Canada, 2017c). The Town of Antigonish is a cultural capital of Northeastern NS, otherwise known as the "Highland

Heart of Nova Scotia”, dating back to 1889 (Town of Antigonish, 2017). The town is internationally known for the Antigonish Movement and the Coady International Institute, both based around community development and social justice (Town of Antigonish, 2017).

Antigonish is a full-service town with a major regional hospital, home of St. Francis Xavier University, “an enterprise base and burgeoning network of ecologically and socially conscious citizens Antigonish has been, and continues to be, a unique and vibrant place to live with a great sense of community” (Antigonish Food Security Coalition, 2013, p. 11). Many people within the larger region (from Port Hawkesbury and/or Guysborough) travel to Antigonish for medical services, shopping or entertainment (Town of Antigonish, 2017). Over the past decade, Antigonish has been making great efforts to set itself apart as a pilot community for sustainable development in the region (Antigonish Food Security Coalition, 2013).

4.3.2 Guysborough County. Guysborough County contains many rural communities covering 4044 km² on the northeast end of mainland NS. The population of Guysborough County was approximately 7,625 people in 2016 (Statistics Canada, 2017d). Communities included in this area are Canso, Cross Road Country Harbor, Guysborough, Larry’s River, Liscomb Game Sanctuary, Melose, Moser River, Mulgrave, and Sherbrooke. Agriculture accounts for 2.03% of all jobs in the region, which is higher than the provincial average of 1.17% (Statistics Canada, 2017a; 2017d).

4.3.3 Richmond and Inverness Counties. Richmond and Inverness counties are two of the four counties located on Cape Breton Island, which is 10,311 km² in size, separated from the mainland of NS by the Strait of Canso. The Island had a total population of 94,285 in 2016 (Statistics Canada, 2017e), with 8,964 (Statistics Canada, 2017f) and 17,235 (Statistics Canada, 2017g) residing in Richmond and Inverness Counties respectively. Richmond County has a land

area of 1,249 km² (Statistics Canada, 2017f) and Inverness County had a land area of 3,831 km² (Statistics Canada, 2017g). Although a major service center for Richmond and Inverness Counties, the Town of Port Hawkesbury has very limited options to purchase local food (Antigonish Food Security Coalition, 2013).

4.3.4 The Nova Scotia Health Authority. Prior to April 1, 2015, the operational management of public health units in NS was under the governance of District Health Authorities (DHAs), which were given direction through their Community Health Boards (CHBs; Government of Nova Scotia, 2014). DHAs had the discretion to influence individual organizations by setting local targets and influencing resource allocation (Government of Nova Scotia, 2014). Municipal governments fund and govern their own public health, water supply, urban and regional planning, housing, transportation, and social services, all of which are directly or indirectly relevant to food security sustainability (MacRae, 2011).

Together Guysborough, Antigonish, and Richmond counties (as well as a small portion of Inverness County) were part of the former Guysborough Antigonish Strait Health Authority (GASHA), while Cape Breton District Health Authority (CBDHA) administered Cape Breton County's health services. As of April 1, 2015, the previous nine DHAs, including GASHA and CBDHA, consolidated to become the NSHA, with the geographic areas described above becoming part of Management Zone 3, or the Eastern Zone. Public health units remain under control of their discrete CHBs and municipal governments (Government of Nova Scotia, 2015). However, members of the CHBs for Antigonish, Guysborough and Strait Richmond worked together to release the *Collaborative Community Health Plan* for 2017-2019 that provides a common list of priority issues. There are three public health units within these CHBs, wherein the public health staff work together to address the priority recommendations identified by the

CHBs, including poverty, early child development, food security, and social inclusion (NSHA & CHBs, 2017).

4.3.5 Demographic trends and implications for community food security. The demographic trends in NS have several implications for community food security. At the heart of community food security is the idea that everyone should be able to access healthy, sustainably produced food (Hamm and Bellows, 2003). Nova Scotia has the highest rate of poverty in Canada, whereas 15.8% of people live on low income, compared to a national average of 12.9% (Canada Without Poverty, 2015; Newell et al., 2014; Williams et al., 2012c). Low or declining incomes relative to rising living costs affects the ability of people relying on minimum wage or provincial income assistance (“welfare”) programs to afford a nutritious diet (Canada Without Poverty, 2015). Furthermore, a small tax base impedes NS’s ability to meet the demands of increasing health care and social assistance costs (Gibson, Fitzgibbons, & Nunez, 2015). Specifically, within the Eastern Zone, individuals earning a minimum wage were more likely to feel they often or sometimes did not have enough to eat and/or were unable to afford a basic nutritious diet when compared to individuals from the highest income categories once other essential needs were met (Antigonish Town & County CHB, Guysborough County CHB, & Strait-Richmond CHB, 2011). In addition to income, issues such as transportation can be particularly challenging for families in rural NS. Many individuals living in the Eastern Zone, particularly NS’s Indigenous Peoples, face barriers to nutritious diets due to limited access to food retailers (Andrée et al., 2016; NSHA & Antigonish Town & County CBH et al., 2017; Voices for Food Security in Nova Scotia, 2017). Supermarkets, where food tends to be less expensive, can be far from home and people must travel between communities to access goods and services and many food producers travel to a variety of farmers markets beyond the one

location in Antigonish (Government of Nova Scotia, 2014). FoodARC's most recent PFC study showed that the cost of a basic, nutritious food basket is considerably higher in smaller grocery stores in rural NS (Voices for Food Security in Nova Scotia, 2017).

Building healthy, just and sustainable food systems that meet the needs of local populations is also central to the realization of community food security (Hamm, 2009; Hamm and Bellows, 2003). Nova Scotia, having a small population living on a significant land base, presents opportunities for community-based self-sufficient strategies in an economy focused on natural resources, such as agriculture and agri-food, and fisheries/aquaculture (Andrée et al., 2016; Gibson, Fitzgibbons, & Nunez, 2015). In terms of agriculture and agri-food sector, the province has a range of producers of commercial vegetable and fruits whose main crops include cabbage, potatoes, onions, lettuce, tomatoes, strawberries, blueberries, and apples, while dairy makes up the largest part of the agricultural industry with 22.9% of total gross farm receipts (Nova Scotia Department of Agriculture, 2012; Williams et al., 2012c). However, there are concerns about how economically robust the sector is wherein Nova Scotian farmers reported facing challenges due to high production costs and low market prices (Andrée et al., 2016). Indeed, Atlantic genuine progress index statistics indicated that net farm income in NS dropped by 91% between 1971 and 2007, and agricultural revenues declined in 2010 to a level 4.3% below revenues generated in 2005 (Torjman, 2012).

4.3.6 Strategies for community food security in Nova Scotia. In NS, there has been an increase in motivation for community food security through extensive community research and capacity building activities (FoodARC, 2018). As early as 2002, experts began exploring issues of hunger and household food insecurity and identified a number of factors affecting local producers (farming and fishing) and urban food access in the Region (FoodARC, 2018). Early

ideas about the interconnectedness of these issues lead to a series of commissioned studies and reports on the state of local food systems and deepened public health's interest and commitment to developing a broader, more comprehensive approach to addressing food concerns through a wide scope of programs and policies (ACT for CFS, 2015). The following section introduces current provincial and local initiatives to address food insecurity relevant to the current study located in the NSHA Eastern Zone.

4.3.6.1 *Antigonish Food Security Coalition.* The Antigonish Food Security Coalition (AFSC) is a network of individuals and organizations who raise community awareness around the issue of food insecurity with a primary goal of undertaking community food assessments to secure funds to increase food security in the area (Sustainable Antigonish, 2018). Formed in 2009 out of work from *VOICES Antigonish* (see sub-theme 4.3.11), the AFSC furthers advocacy and networking related to sustainable food in the town and county of Antigonish (Antigonish Food Security Coalition, 2013). The coalition is active in supporting urban agriculture and advocates for broad changes in federal and provincial policies related to farmer's employment, agriculture, and economics to support the goal of obtaining, supplying, and distributing locally produced food (Sustainable Antigonish, 2018).

4.3.6.2 *FarmWorks Investment Co-operative.* FarmWorks Investment Co-operative operates as one of NS's largest Community Economic Development Investment Funds that "promotes and provides strategic and responsible community investment in food production and distribution to increase access to a sustainable local food supply for all Nova Scotians" (FarmWorks Investment Co-operative, 2017). Nova Scotians have invested almost 1.8 million dollars into new or expanding local farm and food businesses since it was created in 2011 (FarmWorks Investment Co-operative, 2017).

4.3.6.3 *Feed Nova Scotia.* Feed Nova Scotia, created in 1984, is a non-partisan organization that supports charitable food programs (Feed Nova Scotia, 2017). Feed Nova Scotia addresses food insecurity by collecting and distributing emergency food to 146 food banks and meal programs across the province. Volunteers of this program also aim to raise awareness of the challenges hunger and poverty create for Nova Scotians (Feed Nova Scotia, 2017). Within this case study, there are four separate member organizations that receive food from Feed Nova Scotia (Feed Nova Scotia, 2017).

4.3.6.4 *Healthy Eating Nova Scotia.* Healthy Eating Nova Scotia is a strategic plan created by the NS DHW (2005; previously known as the NS Department of Health Promotion and Protection) which has four priority areas regarding food: breastfeeding, children and youth, fruit and vegetable consumption, and food security. Under the NS DHW's Public Health *Healthy Communities* mandate, the goal of Healthy Eating Nova Scotia is to increase the proportion of Nova Scotians with access to nutritious foods and to increase the availability of nutritious, locally produced foods throughout the province (NS DHW, 2005). The province has developed several school-related policies to promote healthy eating and several programs to promote local foods — see detailed descriptions of such policies and programs in this section. Previous provincial healthy eating initiatives that focused on individual choice, were identified as being problematic, particularly for those living in poverty and did not have the resources to make the recommended decisions (NS DHW, 2005).

4.3.6.5 *Nourish Nova Scotia.* A province-wide, non-profit organization since 2012 that supports nourishment and food literacy programs in schools. The overall goal of Nourish Nova Scotia is to support the nutritional well-being of children and youth and to cultivate generations of healthy eaters through nutrition knowledge, food skills, and healthy eating practices through

education and awareness building activities (Nourish Nova Scotia, 2018). Efforts to co-create a provincial Edible School Garden program aims to engage today's children and youth and the generations to come to understand, appreciate and value real food, to foster a desire to learn about nutrition, cook from scratch, plan real food meals, celebrate traditions surrounded with good food, and come to a better understand what nourishment means to the body, what local farmers and producers mean for our economic and social prosperity, and how to connect the dots between the garden and table (Nourish Nova Scotia, 2018). Nourish Nova Scotia promotes and supports food and nutrition programs in partnerships with several communities and schools within Antigonish, Guysborough, and Strait Richmond counties by providing grants and resources and advocating for the nutritional health and well-being of children and youth (Green Schools Nova Scotia, 2016).

4.3.6.6 *Pan Cape Breton FoodHub.* The Pan Cape Breton FoodHub is a multi-stakeholder co-op with both producers and consumers as members. The FoodHub is a strategy to support a healthy food economy and sustainable food system by improving access to high quality local food access in the region (Cape Breton FoodHub, 2017). The FoodHub helps ensure a responsive, efficient distribution linkage between local food producers and consumers (Cape Breton FoodHub, 2017). There is a \$50 yearly membership fee for all members of the co-op (Cape Breton FoodHub, 2017).

4.3.6.7 *Participatory Food Costing.* Since 2002, the NS DHW has funded sustainable PFC to help monitor income-related food insecurity (Voices for Food Security in Nova Scotia, 2017). In partnership with the FoodARC at Mount Saint Vincent University, researchers use the PFC as a tool that portrays the cost of a nutritious diet in NS by providing a description of almost 70 foods (type and quantity) that can make up a nutritious diet for people of different age and sex

categories in various regions throughout NS (Voices for Food Security in Nova Scotia, 2017). Data generated from this research is used to advocate for food security for all Nova Scotians by “influencing social and policy change to support healthy, just, and sustainable food systems for all Nova Scotians with a focus on addressing root causes” (Voices for Food Security Nova in Nova Scotia, 2017, p. 7).

4.3.6.8 *Food and Nutrition Policy for Nova Scotia Public School.* The NS DHW (previously known as the NS Department of Health Promotion and Protection) developed a detailed food and nutrition policy for its public-school system that describes standards for foods and beverages served and sold in school to support the provincial healthy eating strategy (NS DHW 2006). The policy, introduced in 2006, forbids schools from selling beverages other than milk, 100% fruit juice, and water (NS DHW, 2006). Additionally, school fundraising activities are not allowed to involve foods that do not have moderate or maximum nutritional value. The development of standardized guidelines for the provincial breakfast program and a supporting monitoring tool for the program (development starting in 2008) was developed to further support the *Food and Nutrition Policy for Nova Scotia Public Schools*. In 2018, NS doubled the total investment of the province’s School Health Eating Program to nearly two million dollars annually (NS DHW, 2018). As of 2010, NS has provided \$750,000 to support and expand breakfast programs, \$20,000 to fund a breakfast program coordinator, and \$250,000 to help school boards implement the School Food and Nutrition Policy (NS DHW, 2018).

4.3.6.9 *Select Nova Scotia.* A province-wide marketing endeavour that encourages consumers to purchase local products, highlights local food, food products, and seafood, and lists markets and businesses where people can acquire local produce (Province of Nova Scotia, 2013).

The Select Nova Scotia website outlines the economic, health, and environmental, and community benefits to purchasing locally (Province of Nova Scotia, 2013).

4.3.6.10 *Thrive! A Plan for a Healthier Nova Scotia.* Thrive! is a prevention strategy that focuses on healthy eating and physical activity that is built on a foundation of social policy (NS DHW, 2012). The plan shifts emphasis from weight to health and outlines four priority actions to create environments that make it easier for Nova Scotians to eat well and be active including supporting a healthy start for children and families, equipping people with skills and knowledge for lifelong health, creating more opportunities to eat well and be active, and planning and building healthier communities (NS DHW, 2012).

4.3.6.11 *VOICES Antigonish.* Voices Antigonish is a non-profit community organization created in response to growing concerns about the lack of availability and accessibility of fresh, nutritious, and locally produced foods after the loss of the only grocery store in downtown Antigonish. Members of VOICE Antigonish undertake community initiatives such as community gardening and a local food box program (Sustainable Antigonish, 2018). Beyond providing fresh, nutritious locally produced food to community members, VOICES Antigonish strives to increase awareness around food security through education on gardening from land preparation, planting and maintenance to harvesting, preservation and healthy eating (Sustainable Antigonish, 2018). Another program offered by VOICES Antigonish delivers a box of fresh, locally produced fruits and vegetables bi-weekly to a convenient drop-off location (Sustainable Antigonish, 2018). Participants can place some order every two weeks or less if desired. The price for a local food box is very fair for the quantity received since the program is operated by volunteers (Sustainable Antigonish, 2018).

4.4 Participants

To explore this social phenomenon of PHNs' engagement in work to address food insecurity, a purposeful sampling technique was used to select participants who met the study criteria. Purposeful sampling is a technique widely used in qualitative research for the identification and selection of information-rich cases for the most effective use of limited resources (Patton, 2002). This involves identifying and selecting individuals or groups of individuals that are especially knowledgeable about or experienced with a phenomenon of interest (Creswell & Poth, 2018). Eligibility criteria included: (a) currently employed at one of the public health units that were involved in work to address food insecurity within the CHBs for Antigonish, Guysborough, and Richmond areas; (b) the current municipal councillor or mayor within the bounded municipal location of the case; (c) had an awareness of the factors that influence engagement in work to address food insecurity and/or were involved in food governance in NS; (d) had experience in engaging in work to address food insecurity; and (e) spoke and read English (Rationale: I am only able to communicate fluently in English. As part of my learning, I collected and analyzed all data and therefore, participants were required to communicate in English). The intent of purposeful sampling was to select participants who could inform the understanding of how PHNs engage in work to address food insecurity with a focus on enablers and constraints to engagement. Key stakeholders provide “insights into a matter but can also suggest sources of corroboratory or contrary evidence — and also initiate the access to such sources” (Yin, 2014, p. 90).

In keeping with the principles of qualitative research the exact sample size was determined by theoretical sufficiency (Dey, 1999); that was no new categories emerged and the relationships between categories could be rigorously supported (the conditions under which the relationship operated or changed). Yin (2003, 2009, 2014) does not provide any guidance for

number of interviews to achieve theoretical sufficiency. However, Merriam (2009) states that a sample size of 15 to 20 participants is adequate to generate a comprehensive description for case study analysis.

Participant and document characteristics. Individual interviews were conducted with 19 participants. Participants were from the Eastern Zone (i.e., Zone 3) including, PHNs, public health nutritionists, health equity experts, ministers of health, directors, managers, and municipal government officials. The members were too few to identify participants other than the PHNs and are categorized under the ‘other’ role category. Table 4.2 gives an overview of the socio-demographic characteristics of the participants. I identify participant quotes with pseudonyms in the dissemination of findings. I reviewed 33 various documents, including PHN position statements and job descriptions, public health unit strategic plans and protocols, meeting minutes, websites, and other communication and teaching materials. See Table 4.3.

Table 4.2: *Socio-demographic Characteristics of Study Participants (n=19)*

Characteristic	No. of Participants
Gender	
Female	15
Male	4
Role^a	
PHN	6
Other	13
PHN Years in Profession	
<10	2
10-19	2
>20	2
No. Of PHUs represented by participants	3/33 ^b

PHN, public health nurse; PHU, public health unit

Note. Actual numbers according to the original categories in the sampling frame cannot be disclosed in an effort to protect participants' identities.

Note^a. Other role category includes Public Health Employees, Ministers of Health, Directors, Managers, Municipal Government Officials (numbers per role too small to report).

Note^b. 33 = Number of public health units in NS.

Table 4.3: *Characteristics of Study Documents (n=33)*

Document Type	Example Document	Total No.
Websites	<ul style="list-style-type: none"> - Public health unit - FoodARC - NSHA 	4
Policy and Planning Documents	<ul style="list-style-type: none"> - Strategic Plans - Protocols - Position statements - PHN job descriptions - Annual reports - Meeting Minutes 	21
Programming Materials	<ul style="list-style-type: none"> - Screening tools - Resource lists 	2
Other Communication & Teaching Materials	<ul style="list-style-type: none"> - Presentation - Flyers - Toolkits 	6

FoodARC, Food Action Research Centre; NSHA, Nova Scotia Health Authority; PHN, public health nurse

4.5 Participant Protection and Ethical Considerations

4.5.1 Ethical approval. Prior to data collection, I obtained ethical approval from the University of Ottawa, and NSHA research ethics boards (REBs; [Appendices A & B, respectively]). The research process strictly adhered to the ethical standard of the TCPS 2 as

outlined in the REB approved research protocols. These included the following four major ethical considerations: obtaining informed consent, privacy and confidentiality, concerns about risk, and dissemination of knowledge (Creswell & Poth, 2018).

4.5.2 Obtaining informed consent. Participants gave free and informed consent according to the *TCPS 2: Ethical Conduct for Research Involving Humans* (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada, 2010). Participants willing to participate signed either the *Informed Consent for Public Health Employee* (Appendix C) or *Informed Consent for Municipal Government Official* (Appendix D) prior to interviews.

4.5.3 Privacy and confidentiality. Public health units were informed that the names of the organizations would not be kept anonymous in research reports or publications in their letters of invitation. This letter explained the risks, which included dissension among co-workers, colleagues from other public health units, nurses, and/or stakeholders with whom the public health units work. Consent to participate in the study was voluntary. The participants were informed that their anonymity could not be guaranteed (because of the small number of staff in their public health units) in their information letters.

Steps were taken to safeguard participants' identities: (a) the use of anonymized and aggregated results in reports and publications; (b) the removal of personal identifiers; and (c) the replacement of names with pseudonyms so that quotes cannot be linked to participants or public health unit. The list matching the names and pseudonyms was kept separately in a secure location and was not disclosed to anyone. Only the PhD student investigator, Shannan MacNevin, had access to pseudonyms that could be linked to participant identities.

Several steps were taken to protect participants' confidentiality: (a) a pseudonym was assigned to all information provided by participants so that it could not be linked to them; The list of participant names was kept separate from the data collected; (b) interviews were conducted in a place of privacy, requested by the participant; (c) participants were reminded that they could refuse to answer any questions; (d) only the researcher, Shannan MacNevin, and the thesis supervisor had access to the raw data, which is kept in a locked briefcase or on a password-protected personal computer; and (e) any transcriptionists who had access to the audiotapes signed a confidentiality form (Appendix E). Everyone who had access to the raw data was asked to sign this confidentiality agreement as well. Information sent to transcriptionists was encrypted. The transcribed interviews and field notes will be kept in a locked cupboard in my supervisor's office at the University of Ottawa for a period of seven years following completion of study and publication, and encryption technology will be used to protect the electronic data (University of Ottawa, 1991).

4.5.4 Concerns about risk. Risks associated with this study were no greater than those in everyday practice (Government of Canada, 2015). However, food insecurity is a contentious issue arising in sociopolitical contexts and social and political repercussions were possible for individuals and/or organizations when views were expressed. Dissension was possible among co-workers and/or stakeholders with whom participants' work. Some staff may have felt uncomfortable or inconvenienced when answering questions or discussing personal views. Some participants may have felt my presence as a distraction to the public health unit's workplace or feel inconvenienced that their time was not compensated. Care was taken to be conscientious of the time taken for interviews and telephone calls and to minimize disruption to the public health unit's workplace to mitigate discomfort or inconveniences. Information about public health's

Employee and Family Assistance Program (EFAP) including contact information for psychological counselling services was made available to the participants at the time of the interview.

4.6 Recruitment

An information letter (Appendix F) was sent to the local public health manager to introduce the study and invite the public health unit to participate (see Appendix G for email script). The letter described what the public health unit would be asked to do if they were willing to participate, why they were selected, the potential risks and benefits, and matters of privacy and confidentiality. The public health manager and the assigned site investigator for the study signed a letter of permission and provided a letter of participation and support (Appendix H).

Permission was required for the public health unit to participate. Further, letters of support from the principal investigator's department (Appendix I), and the supervising investigator (Appendix J) and their affiliated NSHA department (Appendix K) were also required by the NSHA REB prior to commencement of participant recruitment.

Once permission and support were obtained, an introduction letter was emailed to current public health staff and municipal government officials by the NSHA public health site investigator (Appendix L; Appendix M). These letters included background information on food insecurity, the purpose of the study and why participants were asked to participate.

Additionally, potential participants were identified through snowball sampling whereby my research participants assisted in identifying people who met the sample criteria and were information-rich (Creswell & Poth, 2018; Miles & Huberman, 1994). Information-rich individuals are those from whom the researcher is likely to learn a lot about the topic or phenomenon of primary interest (Patton, 2002). For those identified through snowball sampling,

the individual recommending the potential participant gave my contact information to the individual (see Appendix N for email script). Nurse managers, Directors, and municipal government officials were identified using the snowball technique.

4.7 Data Collection

In keeping with Yin's (2014) approach to case study, the following data collection methods were used in this study. These included:

- In-depth interviews
- Document analysis
- Participant observation during interviews as captured in field notes

4.7.1 In-depth interviews. A total of 19 individual face-to-face interviews lasting approximately 60 minutes were conducted between November 2016 and March 2017 with eligible participants. A semi-structured interview guide (Appendix O) was used to direct the line of inquiry. The semi-structured format was the most appropriate for the study to ensure that significant questions posed by the study were addressed while allowing for participant's views and perspectives to be revealed through an open-ended facilitation of discussion (Britten, 2006) and processes not directly observable to emerge (McEvoy & Richards, 2006). This approach allowed me to follow up on interesting points made by the participants and ask questions in response to issues raised. I used probes as well to fully explore the issues under investigation, to explore participant's views, and to clarify meaning. The interview questions were grouped in three broad areas based on objectives of the study: perspectives of PHNs' role(s) in addressing food insecurity, what is meant by public health nurse engagement in work to address food insecurity, and factors that facilitate or constrain PHNs' engagement in work to address food insecurity. Participants were asked how concepts represented in my conceptual framework

influenced PHNs' engagement in work to address food insecurity. As information was gathered and preliminary analysis emerged, interview questions were evaluated and refined to ensure the questions were asked in a way that were relevant to the research focus and was understandable to the interviewees (Miles et al., 2014). Basic demographic information was also gathered from participants before the interview commenced (Appendix P).

When possible, face-to-face interviews at a mutually agreeable private venue were held, as opposed to interviews being carried out over the phone, to observe non-verbal communication and to develop a closer rapport with participants (Britten, 2006; Shuy, 2003). Due to logistical reasons, six of the participants were interviewed via telephone. For face-to-face interviews, one participant preferred to meeting a public space closer to her place of residence, and the remaining participants were all interviewed on site within the case organizations. For participants who wished to remain on site, arrangements for a meeting room were made; others preferred to have the meeting in their respective offices. Participants were asked for permission to be re-contacted via telephone following their interview. A follow-up telephone call was made to five of the participants where clarification or elaboration was needed.

All interviews were audio-recorded with permission of the participant and transcribed verbatim by a professional transcriptionist service within two weeks so that transcripts were available for coding. Transcriptions were reviewed in relation to the conceptual framework within two weeks of each interview. All interview text was imported into NVivo 10 qualitative data analysis software.

Second round of in-depth interviews. A second round of in-depth interviews were completed between June 2017 and July 2017 once the first round of interviews had been completed and preliminary analysis was conducted. While focus group discussions were

originally proposed, alternatively a second round of in-depth interviews were conducted with several of the participants over the phone. This second round of in-depth interviews replaced focus group discussions for logistical reasons. Many of the participants had to travel long distances to attend a focus group discussion, despite numerous scheduled attempts, focus groups were cancelled due to lack of attendance.

The purpose of the second round of in-depth interviews was the same as the proposed focus groups discussions. The purpose was multi-fold: a) collect new data, b) add to the analysis by sharing further insights on what the findings meant to them, and c) member checking technique, to provide participants with an additional opportunity to identify any misinterpretations or omissions on my part as the researcher. Provisions were made to include one participant who was not part of the first round of the interview sample who came forward and wanted to participate in the second round.

The participants were provided with a five-page draft report that provided a summary of the integrated results from the case study. The report, as well as a list of questions (Appendix Q) to guide areas for their consideration as they review the findings and interpretations were provided in advance of the interview. Only a verbal response to the questions was requested.

4.7.2 Document review. Data collection from review of 33 key documents in the public health units occurred simultaneously with interviews to corroborate and augment information gained from interviews, and to guide further areas of inquiry (Bowen, 2009; Yin, 2014). Formal documents gave insight into the organizations' cultural and historical context, as well as technical operations (Bowen, 2009). Documents included were purposefully selected for review based on the following eligibility criteria: (a) documentation pertaining to public health nursing practice within the case study site including: job descriptions, policy documents (e.g. for

decisions making, position statements regarding health inequities, such as food insecurity), strategic plans, annual reports, and meeting minutes; (b) and dated between 2010 and 2018.

The identification and access to most of the organization's documents was assisted by the NSHA public health site investigator. Additional documents of interest were identified through discussions with participants. Data extracted from the documents were guided by a document summary form (Appendix R), as recommended by Miles and Huberman (1994). Data extracted included: (a) the data and type of document (e.g., position statement); (b) the intended audience (e.g., nurses, politicians); and (c) salient points related to decision-making process and factors that support or pose barriers for engaging in initiatives related to addressing food insecurity. The data was imported into NVivo 10 qualitative data analysis software to assist with data management.

4.7.3 Participant observation. Nonverbal behaviours of participants during in-depth individual interviews were documented in field notes. Participant observation is used to gain an intimate familiarity with interviewees and the environment (Creswell & Poth, 2018). It helps capture incongruency between verbal expressions and body language. Participant response to the interview as a whole, as well as overarching nonverbal behaviors, such as hand wringing, or lack of eye contact were documented in field notes. Field notes are recommended in qualitative research as a means of documenting rich contextual information by situating the study within a larger societal and temporal context (Phillippi & Lauderdale, 2018), which can support understanding of participant meaning in interviews (Berger, 2015). Small, keyword-based notes were taken during the interview to remember important aspects for creation of a detailed field note after the interview was completed. Comprehensive field notes were created the same day as the interview occurred, while the researcher's memory was fresh (Phillippi & Lauderdale, 2018).

In addition, critical reflection after each interview was done to assess performance, identify biases and feelings, facilitate preliminary coding and iterative study design, increase rigor and trustworthiness, and provide essential context to inform data analysis (Berger, 2015; Phillippi & Lauderdale, 2018). Refinement of interview questions and the reasons why the questions were adapted were also recorded.

4.8 Data Analysis

Yin (2014) proposes a number of ‘techniques’ to guide case study and data analysis. The five specific analytic techniques that Yin (2014) proposes can be used to guide case study researchers include: a) pattern-matching; b) explanation building; c) utilizing time-series analysis; d) logic models; and lastly e) cross-case synthesis. However, Yin (2014) does not provide systematic processes for interpreting qualitative data. Yin (2014) openly admits “analyzing case study evidence is especially difficult because the techniques still have not been well defined” (p. 132). Yin (2014) himself suggests researchers will have to refer to books devoted to specific data analysis techniques for guidance, such as Miles and Huberman (1994).

4.8.1 Framework Analysis. Given the diversity of data sources, case study data analysis is commonly guided by framework analysis (Ritchie & Spencer, 1994; Ritchie, Spencer, & O’Conner, 2003) and the creation of matrices (Miles & Huberman, 1994; Yin, 2014). Framework analysis is a flexible, systematic, and rigorous data analysis process (Srivastava & Thomson, 2009; Ward, Furber, Tierney, & Swallow, 2013). A matrix is a tabular format that collects and arranges data for easy viewing in one place and is a stage in the framework analysis process (Ritchie & Spencer, 1994).

Framework analysis as described by Ritchie and Spencer (1994) and Ritchie, Spencer, and O’Conner (2003), is particularly useful for case study data analysis. First, framework

analysis was developed in the context of conducting applied qualitative research and is useful for informing both policy and practice (Srivastava & Thomson, 2009; Ward et al., 2013). Second, framework analysis provides a means to manage data from multiple sources in a systematic manner that allows other readers to trace the analyses logic (Smith & Firth, 2011). Third, it is particularly useful for integrating different types of data and for retaining the link to the contextual setting and therefore useful for case study analysis (Ward et al., 2013).

At a preliminary level, data analysis occurred concurrently with data collection. I used framework analysis (Ritchie & Spencer, 1994; Ritchie et al., 2003) and the creation of matrices (Miles & Huberman, 1994) to analyze data gained from interviews and document reviews. The analysis of data proceeded through two phases: a) Phase One - 'Holistic-Case Analysis'³; and b) Phase Two - 'Embedded-Unit Analysis'⁴. Embedded units consisted of two groups of participants: 1) municipal government employees and 2) public health employees (e.g., PHNs, public health nutritionists, health equity experts, public health managers, and senior leadership). Findings from the two embedded units of analysis were compared and integrated. Working from a conceptual framework, I classified and organized data according to key themes, concepts, and core categories. A provisional list of themes or 'indexes' was developed from the conceptual framework and key critical realist concepts. Systematic reading, interpretation, and coding of my data multiple times through these two phases were guided by five interconnected stages of framework analysis as follows.

4.8.2 Phase one: holistic-case analysis. Phase one entailed the holistic analysis of the case (i.e., PHNs' engagement in work to address food insecurity) and occurred concurrently with

³ Holistic-Case Analysis: the case is studied as a whole (Yin, 2014).

⁴ Embedded-Case Analysis: each unit of analysis are studied within the case (Yin, 2014).

data collection and all the time through a critical realist lens. Phase one began with an in-depth familiarization process. Each interview transcript was reviewed to get a sense of the whole, and to explore information beyond the original conceptual framework. Text from interviews, documents, observational field notes, memos, and reflexive journaling was read, transcription errors corrected, and personal identifiers removed. A sense of the richness, depth, and diversity of the data was gained by systematically re-reading information and making notes about what the data referred to, why data seemed important, and messages that were repeated. I re-listened to audio recordings, re-read transcripts, and revisited documents as judged necessary throughout analysis. Repetitive categories were identified. Organizing data into preliminary categories provided a way to look at data from different angles and to develop ideas about ways to begin to code the data. I began the familiarization process with 20 provisional codes of two types described by Maxwell (2012): organizational and theoretical. Organizational codes are topic-based and theoretical codes are derived from prior theory (Maxwell, 2012). Saldaña (2013) warned against a rigid approach to coding, pointing out that “your preconceptions of what to expect... may distort your objective and even interpretive observations of what is “really” happening there” (p. 146). For this reason, provisional codes were treated as such, and codes were added, changed, or deleted as the data warranted. Over the course of the familiarization process, my 20 provisional codes expanded into a total of 252.

During the second stage of holistic-case analysis, a descriptive thematic coding framework was developed that included an initial list of descriptive codes and their links. The large number of codes was gradually reduced, as I re-organized and combined these codes into the conceptual framework (described in Chapter two) that was developed prior to data collection and analysis. Key concepts were organized into groupings based on judging conceptual links.

For example, I re-coded codes into critical realist-informed categories like 'structure:_' in which existing organizational theoretical codes were re-coded into it to identify possible structures at play.

Stage three of holistic-case analysis is when I conducted first level coding and identified substantive themes by systematically reading each phrase of the textual data, deciding 'what it was about' (interpret), identifying which part(s) of the index applied, and applying applicable descriptive index(es). More interpretive or second level coding began as demi-regularities, recurrences, or 'patterns' were identified. The patterns summarized segments of the previously coded data into a smaller number of concepts. The data was used to operationalize these concepts, which was coded using a one to two-word name. I took memos in conjunction with the coding of data, which included tracking my ideas and thoughts ('epiphanies') about the codes, concepts, and their relationships, or about personal, methodological, or substantive issues.

The fourth stage of holistic-case analysis entailed the construction of descriptive and conceptually oriented matrices (Miles & Huberman, 1994). The development of matrices was an iterative process that involved systematically reading and judging the meaning of the text within each descriptive thematic node and determining key patterns. This was the third level of coding. Data from each category and its sub-categories were lifted from its original text and plotted in a separate chart (e.g., main categories as rows and subcategories as columns). Care was taken about the amount and content of material transposed to a chart to protect against loss of context and steps were taken to ensure I could go back to the original source.

I then interpreted the data set as a whole. Core categories were compared to identify and interpret relationships, which identified core themes. Rigorous and transparent decision and analysis processes were facilitated by using matrix and networking data display techniques

(Miles & Huberman, 1994). I began by exploring and describing themes and then proceeded to explain relationships. Particular attention was paid to how PHNs engage in work to address food insecurity and the factors that shaped their engagement. A number of concluding and verification tactics (e.g., noting patterns, clustering, comparing) were used to draw interpretations emerging from the displays. This phase of the analysis provided a way to examine the substantive content, compare participant and document data, and build a foundation for embedded-unit analysis.

4.8.3 Phase two: embedded-unit analysis. After each of the individual participant transcripts and documents had been analyzed, I conducted across-analysis of two embedded-units (i.e., municipal government employees and public health employees) to identify cross-cutting themes. Data from the across-analysis of the two embedded units were examined to explore patterns and variations in the study participants' framing of food insecurity and/or food security, which highlighted tensions and opportunities in understandings and approaches to address food insecurity. The across-analysis of embedded units helped to build a more powerful description of how these variations in framing and approaches to address food insecurity impacted PHNs' engagement in work to address food insecurity within the Eastern Zone.

To begin this process, matrices were constructed that plotted the patterns for descriptive case findings. The matrices comprised three columns; the different groups of participants (i.e., embedded units of analysis) represented two of the columns and similarities and differences among the embedded-units were tracked in the third column. The rows represented key features of the descriptive patterns identified from the holistic-case analysis. The matrices were systematically interrogated to compare similarities and differences across the different participants and to identify patterns or conceptual links among the matrices. Interpretation of the various stories of participants was achieved by following up on hunches, referring to memo and

journal notes, writing the findings, and re-visiting the holistic-case findings for clarifications and elaborations. The findings were based on explicit factors described by participants and inferred by me. See Figure 4.1 for an overview of the analysis process.

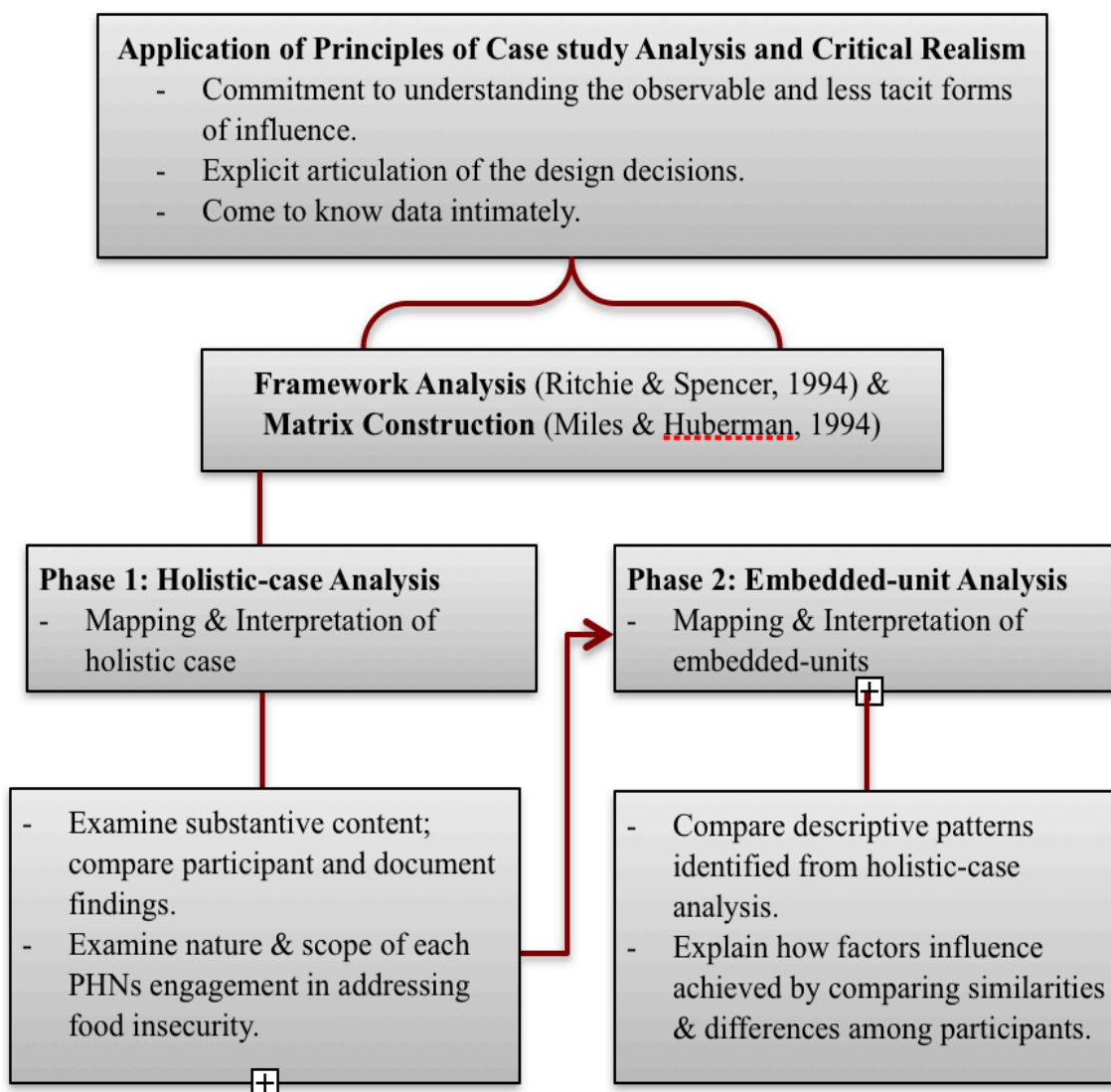


Figure 4.1: Overview of analysis process.

4.9 Trustworthiness of Data

While Yin (2014) refers to the criteria to ensure trustworthiness including credibility, confirmability, and dependability, he does not provide details on these criteria for qualitative research. Qualitative research requires processes to ensure the personal, theoretical, and methodological trustworthiness (the thinking and related actions) of the researcher themselves, not just the data collection and analysis processes (what the researcher is doing) are credible and trustworthy (Lincoln & Guba, 1985).

The quality criteria for developing trustworthiness proposed by Lincoln & Guba (1985) are often cited by qualitative researchers and was applied in this study. Four criteria include credibility, dependability, confirmability, and transferability. In addition, the quality criteria of reflexivity is absent from Yin's (2014), which is proposed criteria essential for quality qualitative research (Lather, 1986). Each criterion with corresponding techniques is described next.

4.9.1 Credibility. Credibility refers to the truth of the data and interpretations of them (Lincoln & Guba, 1985). Strategies to enhance credibility included reflexivity, member checking, triangulation, and the use of participants' words. Member checking included debriefings and discussion of findings with study participants, to verify and clarify researcher's interpretations. This process was completed during a follow-up individual phone interviews with participants. Receiving and integrating feedback from committee members related to coded transcripts and development of matrices was also done. Triangulation included the use of a variety of data sources and multiple theories to identify different ways the phenomenon was being seen.

4.9.2 Dependability. Dependability refers to the stability (reliability) of the data over time and conditions (Lincoln & Guba, 1985). The use of semi-structured interviews provided a

level of consistency in data collection (Polit & Beck, 2012). An audit trail provided rationale for both the process and product of the research study, which was examined by committee members.

4.9.3 Confirmability. Confirmability refers to the degree of neutrality or the extent to which the findings are shaped by the respondents and not researcher bias, motivation, or interest (Lincoln & Guba, 1985). Strategies to enhance confirmability were similar to strategies for credibility including reflexivity, triangulation of data, use of participants' words, and an audit trail. The audit trail provides detailed steps taken, the rationale for decisions taken, and identified internal consistency between the steps taken and the underlying philosophical assumptions of critical realism.

4.9.4 Transferability. Transferability refers to the provision of descriptions that allow readers to judge whether the study findings have meaning for other settings and contexts (Lincoln & Guba, 1985), a feature of evaluation strategies especially important in critical paradigms (Giddings & Grant, 2009). Thick descriptions of the research context, the participants, and the experiences and processes observed during the enquiry will enhance transferability as readers have sufficient evidence to determine the extent to which the findings from the study are relative to other settings or public health units.

4.9.5 Reflexivity. Reflexivity involved being sensitive to the ways in which experiences, prior assumptions, and the theoretical and methodological processes chosen shape the data collection and analysis (Giddings & Grant, 2009). In critical studies such as this research study, pre-understandings, including beliefs, values, and personal biases about the issue being researched and awareness of standpoints in relation to politics, history, and culture given the political agenda of critical research were made plain at the outset of the study (Giddings &

Grant, 2009; Polit & Beck, 2012). Regular reflection was important so that one can listen carefully and fully throughout interviews, and that one analyzes critically.

Reflexivity was primarily documented through the construction of field notes of analytic thoughts in a journal. The journal was to record my thoughts, observations, and reflections. As ideas or codes became apparent to me throughout the study process, I noted them in a separate section of my journal.

4.10 Limitations

Qualitative research is often criticized as biased, small-scale, anecdotal, and/or lacking scientific rigour; however, a number of steps – as outlined in the trustworthiness of data section of this thesis –were taken to ensure the quality of the research process. Generalizability beyond the study may be limited as case study research is based on context-specific situations so that the process is meaningful to those involved. This research is a holistic case study within a specific, bounded organizational and municipal context. While generalizability may be limited to what the reader finds useful and transferable to their context, rich descriptions have been described to facilitate this process.

While the data collected through interviews consisted of a small number of PHNs, it would have been beneficial to have a larger number of PHN participants for a more comprehensive portrait of their perspective. The research process was iterative, incorporating participant feedback. However, there is the possibility that the data reflects the opinions of the case, and other voices may not have been adequately captured. Strategies to enhance the credibility of interpretations including reflexivity, member checking, triangulation, and the use of participants' words aided this process. Furthermore, learning derived from this holistic case study site is a foundational work and may lead to a program of research with multiple sites.

4.11 Dissemination of Knowledge

Dissemination of knowledge and recommendations will be done through at least three different modes. First, a minimum of three articles will be submitted for publication. Potential manuscripts will include: literature review describing the nature and scope of PHNs engagement in addressing food insecurity and factors that enable or constrain engagement, and the findings and interpretation derived from the case. The research will also be disseminated through professional and academic conferences, for example, the Canadian Community Health Nurses Conference or the International Conference on Global Food Security. Third, a Final Integrated Case Report will be given to the participating public health units and all participants of the study.

4.12 Summary

A qualitative case study research methodology has been selected because understanding PHNs' engagement in work to address food insecurity is complex and had to be explored in depth within its natural context, with the voices of PHNs and other key stakeholders at the center (Creswell & Poth, 2018). The overall methodology with its components are summarized in Figure 4.2.

This research was guided by the tenets of critical realism and created an empowering and emancipatory environment for the study participants in various ways. PHNs in the study sample shared their stories and had their voices heard. PHNs also participated in validating the key findings and added to my analysis as well as influenced recommendations from this study. This approach aligned with my critical realist stance as the researcher. Informed by critical realism, I looked beyond participant stories and what was observable to uncover less tacit forms of reality that influenced PHNs' engagement in addressing food insecurity. Collectively these forms of reality exposed the enabling and constraining structures and processes of engagement practices

by public health units. Explaining the prevailing structures and processes that give rise to events or situations can expose power imbalances, ideologies, or traditions that exist, which is a precondition for change. Case study allowed research questions to be answered that are grounded in disciplinary issues and for which findings can be transferable to action (Anthony & Jack, 2009).

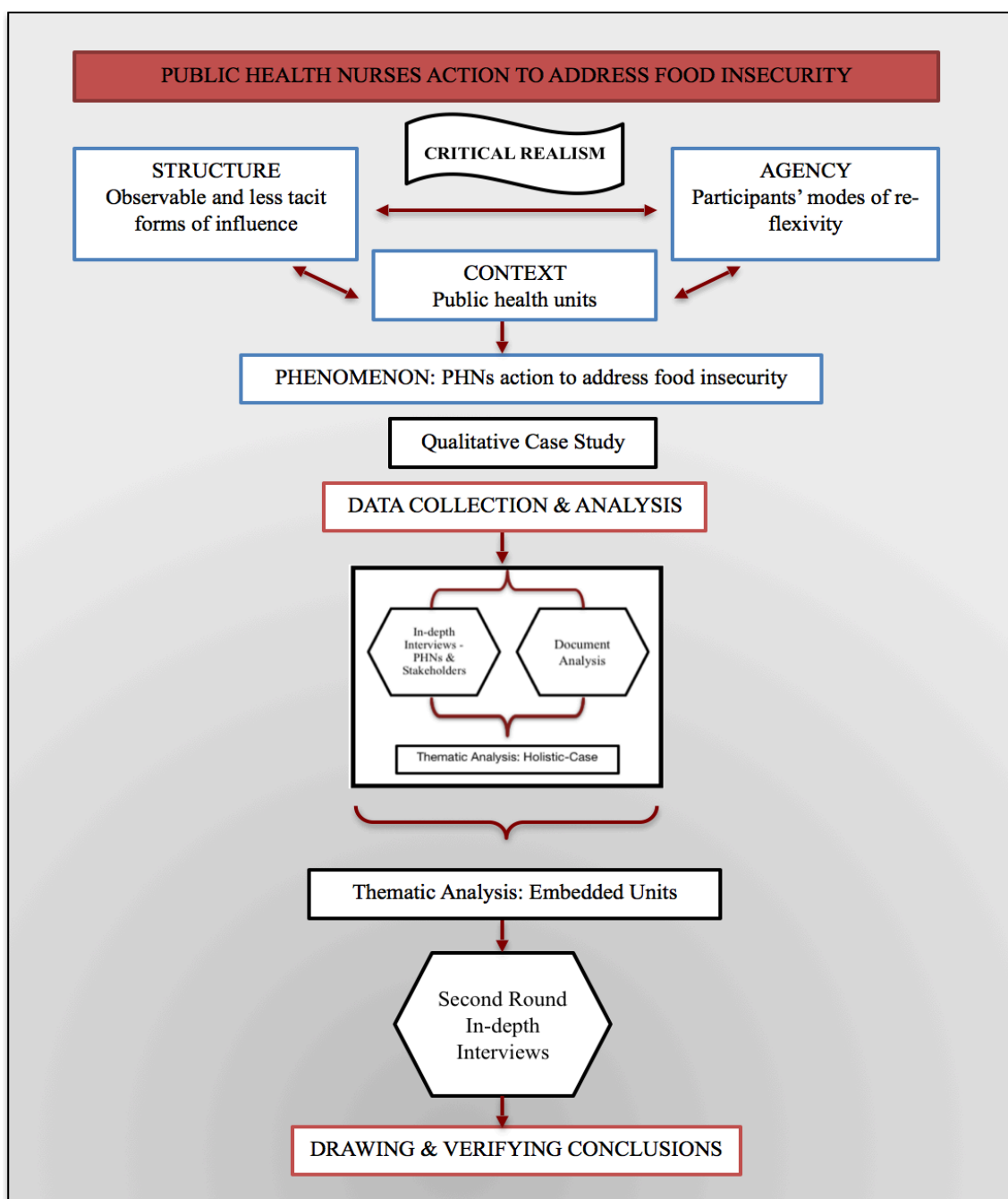


Figure 4.2: Overview of study process.

Chapter Five : Findings

This chapter presents the study findings under four overarching themes that shed light on how PHNs are engaged in work to address food insecurity and the emergent enablers and constraints for an enhanced role for PHNs in this regard. The four major themes include: (1) *Framing Food (In)Security*; (2) *The Role of Public Health Nurses*; (3) *Navigating the Terrain of Food Insecurity*; and (4) *Resources to Advance Food Insecurity Work in Public Health Nursing*. Each of these themes and sub-themes will be described and supported by narratives from the study participants. In keeping with the principles of case study, key documents have been integrated throughout the findings to corroborate and augment information gained from participant interviews and provide insight into the organizations' cultural and historical context, and technical operations.

I begin this chapter with a pictorial presentation of these themes, sub-themes, and examples of a supporting quote in Table 5.1. Findings from the cross-analysis of two embedded-units (i.e., municipal government employees and public health employees) are then presented. Current PHNs' engagement in work to address food insecurity and participant reflections on an ideal role and potential opportunities for PHNs in lead roles to address food insecurity follows. I consider constraints that need to be surmounted to enhance PHNs' engagement in work to address food insecurity and conclude this chapter with resources identified by participants to advance food insecurity work in public health nursing.

Table 5.1: Overview of Key Themes and Sub-Themes with Example of a Supporting Quote

Theme	Sub-Theme	Example of a Supporting Quote
Framing Food (In)Security	Sustainable food systems	<i>Food security is about tackling the complex relationship between productivity objectives and environmental obligations. Food has to be produced, processed, and distributed in a manner that does not compromise the land, air, or water for future generations...that is our responsibility...that is how we can try and achieve food security.</i>
	Anti-poverty	<i>I believe it would be pointless for me to keep pulling bodies out of the river without trying to fix the bridge. You can't fully address the issue of food insecurity without understanding the underlying factors creating the insecurity in the first place and targeting those issues. That's only going to get done by advocating, lobbying, creating social policies.</i>
	Community food security - a comprehensive approach	<i>[Community food security] has elements from both the anti-hunger movement and the sustainable food practices piece....it is holistic. It takes into consideration concerns about food production and food consumption and they are united in community food security. Anyone who advocates this approach envisions food systems that are local, that are environmentally sound over the long term, supportive of collective rather than only individual needs...good at ensuring equitable food access and created by collaborative decision-making.</i>
The Role of PHNs	Current PHN engagement in work to address food insecurity	<i>If it weren't for HEART⁵ ...I literally would be doing nothing at that higher level. It's probably the thing I love most about my job...being involved in real change...one thing we did we picked three health equity issues and when the elections were on in the fall there [was] a forum for the politicians and it was housing, poverty in general,</i>

⁵ HEART – Health Equity Action Resource Team – is a multi-stakeholder, collaborative team of people concerned about issues affecting communities and people's health with a focus on creating the necessary changes to ensure health equity.

Theme	Sub-Theme	<i>Example of a Supporting Quote</i>
		<i>and food insecurity. We wanted to let the politicians know this is how you can help address these issues.</i>
	Enhancing the Role of PHNs in Work to Address Food Insecurity	<i>We are privy to unique information that demographic or epidemiological data cannot capture. So, we are the only profession that witness first-hand living conditions of families...their experiences of living with food insecurity, poverty. We can bring to our municipal government what families identify as their support needs...you hear us being called the “eyes and ears’ of the poor.</i>
Navigating the Terrain of Food Insecurity	Frontline care	<i>I...[have] this feeling that like not just Public Health but lots of nurses are feeling like we’re supposed to know our communities better now...but I see less opportunity for us to be in that role...its slowly being eroded and like people are feeling really distanced from like actually understanding what’s happening in our communities.</i>
	Organizational culture	<i>You’re still expected to do your role at a certain standard, not just according to your employer...but to your own governing body, and to yourself as a professional and an individual, and you have standards. And when you feel like you’re just playing catch-up a lot of the time, it’s hard to address those real issues.</i>
	Structural influences	<i>They [town] were able to keep up with addressing food insecurity because they had the outside support. But we don’t have that outside support down here so when we get called, like if we do a home visit and there’s mold in the house we have to start the search and where to go. Whereas up there, there is somebody that they can call.</i>
	Ambivalence about the PHN role	<i>I fear that the way the public health nurse is going, the title of public health nurse will not exist in a few more years to come...If we don’t clarify a role</i>

Theme	Sub-Theme	<i>Example of a Supporting Quote</i>
		<i>for ourselves... I'm very concerned for the future of public health nursing.</i>
Resources to Advance Work to Address Food Insecurity in Public Health Nursing	Health equity in all resources	<i>I hope the consultants can help address some of these barriers and help us move forward to practice to our full scope...we need the support to work to full scope...full scope promotes health equity.</i>
	Breaking down the silos	<i>We really have to have a pretty formal structure and process in place to make sure we are effectively collaborating. Otherwise, it depends on goodwill and accidental run-ins and whatever. And it never becomes part of your work. You'll work in your silo.</i>
	Indicators of achievement and celebrating successes	<i>We need more research on the public health nursing role, like the work you're doing for public health nurses to become more involved in addressing food insecurity. So, someone that's going to connect this piece with policy and with the layers from an academia point of view to someone who's working in the field so that I can go and pull this out and say here you go, here's the evidence to support why the work that I'm doing is valued and important.</i>

5.1 Framing Food (In)Security

All participants were asked to define their understanding of food insecurity.

Understanding the various definitions of either food insecurity or food security – or both in some instances – from diverse viewpoints was necessary to uncover the less tacit structures and power dynamics in society. The various understandings among key disciplines had implications on PHNs' ability to engage in work to address food insecurity.

Overall, there was a fairly high level of awareness and a broad conceptualization of both food insecurity and food security among the study participants. The following section of this

chapter describes an analysis of how the different groups of participants framed their understanding of food insecurity and/or food security. These are categorized into three sub-themes: (1) *Sustainable Food Systems*; (2) *Anti-Poverty*; and (3) *Community Food Security - a Comprehensive Approach*. Table 5.2 summarizes two broad conceptualizations of food (in)security with a disciplinary focus.

Table 5.2: *Components of the various conceptualizations of food security and/or food insecurity and approaches among participants*

	Sustainable Food System	Anti-Poverty
Disciplinary background	Municipal Government	Public Health
Assumed causes of food insecurity	Production problems	Financial constraints among clients
Focus of interventions	Production of food	Client's access to food
Strategies used	Efficiency (e.g., food banks), transitional (farmer markets, community gardens), system redesign (e.g., coordinated food policies)	Efficiency (e.g., food banks), capacity-building (e.g., community kitchens, community gardens), system redesign (e.g., social policies)
Term used	Food security	Food insecurity
Level of food (in)security	Community	(Most often) household and/or individual

Although the conceptualizations of food insecurity and food security provided by participants were not mutually exclusive, municipal government officials provided definitions most consistent with links to sustainable food systems, while public health definitions were more aligned with the anti-poverty perspective. Conceptualization can be placed along two dimensions from production- to client-oriented, and from operating at the household level to operating at the

community level. This theme ends with a discussion of the concept of community food security, identified by participants as a way to avoid conflation of food insecurity with food security, and an essential approach to marry anti-poverty and sustainable food system perspectives for a strengthened and sustainable approach to eradicate food insecurity.

5.1.1 Sustainable food system. When asked to define food insecurity, the vast majority of municipal government officials described visions of a just and sustainable food system, providing healthy, local, organic food for all their community members. The issues local government officials reported most frequently were connected to food availability and issues with food production, which tended to focus on food systems at the local level; that is, food supply rather than access. Instead of describing food insecurity per se, municipal government officials described issues in relation to the concept of sustainable food systems, namely: food sufficiency, and a sustainable agricultural system. Participants referred to ‘food sufficiency’ as the availability of locally produced foods. Briana reflected on how the concurrent issues of relying on importing foods in conjunction with a decrease in local farming in her community in recent years, has negatively impacted food sufficiency in her jurisdiction:

...you know that family farm idea that I grew up with is gone. You know that sense of eating from the land to the table. That family and community sense is being lost in really two generations. And so even kids in a small rural community think that potatoes come on that big truck into the Independent [grocery store] and you go to the store to get potatoes. So that idea that they come out of the ground and things, it's miraculous that in a couple of generations that that mind-set is gone. So, to be food secure, I think you know it's about having healthy food available to you again, that is equitable, that is grown locally. (Briana)

This kind of food production referred to goes beyond community garden level of production. For instance, one participant described the community garden as more like a symbol of real food production than the type of food production that contributes meaningfully to food security. Daniel said:

So, the bigger issue for me is if you're not producing the food there's no way we can create food security. So not to knock what a community garden is, but they're kind of like more like a symbol than the actual production we need which gets into kind of a whole different level, right. (Daniel)

A “sustainable agricultural system,” Robert explained, “is where food security is about tackling the complex relationship between productivity objectives and environmental obligations,” indicating that food quality, production, and supply will not be ‘secure’ unless they are also environmentally sustainable. He continued, “food has to be produced, processed, and distributed in a manner that does not compromise the land, air, or water for future generations...that is our responsibility...that is how we can try and achieve food security” (Robert). Daniel extended municipal government responsibility of food production to not only ensuring food is produced in an environmentally sustainable way, but ensuring food safety as well:

Whether you're getting into meat production or you're getting into processed food or getting into all these things, there's a whole food handling thing. There's a whole expertise that we've had to step into which isn't just growing food. It's how you handle food, how you get food to the market, how you get people actually being able to store food, take care of food. (Daniel)

Based on municipal government officials’ framings of food insecurity as an issue of food production and distribution, this study provided insight into how municipal governments engage with local food systems and captured the presence of food-related programs and the partnerships and coordination efforts with local producers and distributors supporting these initiatives. In line with community food security, municipal government interventions focused on provision of emergency food supplies through funding, and creating a more localized food system, that was more environmentally sustainable, helped build communities self-reliance, and enhanced local economy. Municipal councillors supported interventions including encouraging local business to increase local food options on their menus, supporting community and school gardens through

funding and allocating compost to garden sites, creating a FoodHub⁶, and developing community policies to support farmers markets and zoning ordinances. Interestingly, and important to note, municipal government officials did not report any activities more closely targeted toward systematically improving the health and security of vulnerable populations. A more detailed discussion of how municipal government officials' knowledge, responsibilities, and priorities influenced PHNs action to address food insecurity is described later in this chapter.

5.1.2 Anti-poverty. Overall, public health employees, including all of the PHNs, had a good understanding of the root causes of food insecurity and the significant impact this had on the health of families and their communities. The majority of public health staff understood and made the link between lack of access to food and systemic issues such as income inequalities. For example, Becca, one of the study participants described the meaning of food insecurity in the following words:

Food insecurity means to me that people don't have enough healthy food or have a choice involved in their food...That they don't have enough healthy food to survive on due to finances. I'm thinking of people on income assistance you know. (Becca)

The PHNs who defined food insecurity on the basis of anti-poverty were also more focused on access to food at the household level. They tended to emphasize limitations on households' access to food, in line with, or similar to the World Health Organization (WHO) and Food and Agriculture Organization (FAO) definitions of food insecurity:

...I tend to use the WHO definition...I know it as that all people at all times have physical and economic access to sufficient, safe, and nutritious foods to meet their dietary needs and food preferences for an active healthy life. (Brittany)

⁶ The Pan Cape Breton FoodHub is a multi-stakeholder co-op with both producers and consumers as members. The FoodHub is a strategy to support a healthy food economy and sustainable food system by improving access to high-quality local food access in the region The Food Hub helps ensure a responsive, efficient distribution linkage between local food producers and consumers (Cape Breton Food Hub, 2017).

Food insecurity is, well on the most basic level, can you get access to foods? It's from those who can't afford food to, is there the right foods being provided in the community – like physical and cultural. It is all-encompassing for me. (Michelle)

Food insecurity was assumed to be caused largely by economic constraints by the participants who framed food insecurity as being about inadequate consumption:

So, I think I do see it as again one of those root cause pieces and poverty is a component of that and I just really believe that we need to make sure students come to school so that they're warm and safe and they're fed and they can learn and that's a big piece of it. (JoAnne)

PHNs quoted local participatory food costing⁷ research that supported this way of thinking:

The food costing study here...the point is made by analysis of the affordability of nutritious diets for low-income households living on social assistance or minimum wage employment. All these analyses showed that the cost of basic needs, including a healthy diet, are not affordable for these households in this area. (Becca)

All of the PHNs described food insecurity as an experience relating to consumption, including “mothers’ fear of running out of food or money to buy food” (Joan), “skipping meals” (Michelle), “experiencing hunger and being unable to buy food” (JoAnne), or “buying cheaper food because of financial constraints” (Jacqi). According to the majority of public health participants, the concept of people being worried about not having enough food, reducing the quality of their food because they cannot afford the cost of higher quality foods, and cutting back on the amount they eat was understood as a consequence of poverty and related to trade-offs made to be able to meet other basic needs, such as housing.

⁷ Participatory Food Costing is a tool that portrays the cost of a nutritious diet in Nova Scotia by providing a description of almost 70 foods (type and quantity) that can make up a nutritious diet for people of different age and sex categories in various regions throughout Nova Scotia (Voices for Food Security in Nova Scotia, 2017). Data generated from this research is used to advocate for food security for all Nova Scotians by “influencing social and policy change to support healthy, just, and sustainable food systems for all Nova Scotians with a focus on addressing root causes” (Voices for Food Security Nova in Nova Scotia, 2017, p. 7).

Public health employees unanimously agreed that factors influencing clients' access to food must be brought up to a political level, arguing that the main cause of reduced access to food is poverty and social inequity:

I believe it would be pointless for me to keep pulling bodies out of the river without trying to fix the bridge. You can't fully address the issue of food insecurity without understanding the underlying factors creating the insecurity in the first place and targeting those issues. That's only going to get done by advocating, lobbying, creating social policies. (JoAnne)

This understanding situates the problem of household food insecurity within the political context of systemic socioeconomic inequities, which result from social policies affecting income distribution and population health. Participants critiqued current ways of addressing food insecurity that fail to address the structural determinants of food insecurity:

In practice, problems and potential solutions have largely been directed towards the individual rather than at the social determinants. Other key structural aspects such as income sufficiency for food are broadly ignored, and antipoverty strategies are often implemented without monitoring for effects on food outcomes. (JoAnne)

5.1.3 Community food security - a comprehensive approach. Participants from each of the two embedded units were asked about their understanding of community food security in relation to the concept of food insecurity; based on a health equity lens, participants in health equity leadership positions marked importance on understanding the difference between food insecurity and community food security throughout their interviews. Interesting, all of the participants stated they utilized the Hamm and Bellows⁸ (2003) definition of community food

⁸ Hamm & Bellows (2003) propose a definition of community food security that could embrace the spectrum of actors and initiatives: "a situation in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance and social justice" (p.40).

security, similar to the definition provided by the NS DHW⁹ (2013). Albeit, stakeholders understood the definition quite differently:

What is food security? We [public health, municipal government] all use the Hamm and Bellows definition because it's the provincially supported definition. But I can tell you, it is not the definition the councillors are using. So that's one of the challenges we have. Because we don't hold a common vision for what food security is. (Michelle)

The fact that participants adopted the broad, holistic Hamm and Bellows definition is a testament to the commitment to keeping a comprehensive definition in NS. While participants were ambivalent about the definition, as will be illustrated throughout this sub-theme, some of the participants recognized the value of a broad definition of food security as a way to align strategies and include many stakeholders in efforts to address food insecurity:

It doesn't matter how food security is positioned if it makes sense to you. Like I think if you wanted to call food security cooking and skill building, if you wanted to call food security access to local food, like, just being strategic. We need to be putting all these positions together any way you can. (Becca)

Brittany suggested that although she believed that most of the stakeholders involved with food security in the Eastern Zone agreed with the concept of community food security, differences lied in approaches to achieve community food security:

I think that food security is contentious and political, but I think that you will find that most people will agree with the [community food security] definition of Hamm and Bellows. Where you will find disagreement is how you get there. That's where the complexities and the issues lie. (Brittany)

Jacqi agreed and reiterated the differences regarding strategies for achieving food security stating, "I think we [public health, municipal government] all agree that food security is good and we want food security. But we do address it, like tackle it in different ways." Participants

⁹ NS DHW (2013) states "Food security means that all people, at all times, have access to sufficient, nutritious, safe, personally acceptable and culturally appropriate foods that are produced, procured and distributed in ways that are environmentally sound, socially just and sustainable".

made it clear that public health and municipal government focus on different aspects of the definition and take on different roles as a result of opportunities, mandate, and resources:

Everybody has a different agenda. You want people sitting at the table who want guaranteed income, you want people growing local foods, and those making policies that help people make healthy decisions in municipalities, you want local foods being provided in schools. It's all food security. (JoAnne)

Through participant interviews, it became evident that stakeholders' interests on different components within the definition of community food security was also an important factor in strategies chosen to address food insecurity. Although analysis of participant interviews suggests that stakeholders' interests may be more relevant than the definition of food (in)security itself, some of the participants highlighted the importance of avoiding the conflation of the definitions of food insecurity and food security as they lead to fundamentally different policy strategies:

We need to recognize that food insecurity policy, that is 'policy initiatives directed at supporting individuals and families who lack access to food because of financial constraints' is not just the flip-side of food security policy, you know 'policy that would aim to provide healthy and safe food for all.' (Cara)

Some participants felt that understanding the difference between the concepts was important so policies created would be comprised of both anti-poverty and local food sustainability components:

So, I think being food secure is about having access to healthy food that is locally produced, that is equitable for people across the socio-economic scale and it isn't and I believe that that is a, it's a right for individuals to have that and that it's not, shouldn't be because your socio-economically make more money so you can afford to eat healthy or eat better or be food secure and we know that isn't happening. (JoAnne)

Another public health employee suggested there needs to be a focus on accessing the dominant perceptions of anti-poverty and food insecurity alone, calling for a “shift to a community food security lens” in public health to foster a more equitable way of addressing food insecurity:

Some of these [production-oriented] initiatives may seem at odds with anti-hunger actions. Like, for instance, local foods produced in these small-scale ways are often more

expensive than imported foods, and sources of local foods, like farmers markets, are not really accessible to low-income residents in the area who lack affordable transportation. Promoting local food production and consumption is one strategy to move toward a more sustainable food system. At the same time reducing the economic disparities that contribute to food insecurity among these people is also essential in building long-term food security...Shifting to a community food security model is the only way to improve access to safe, nutritious, affordable foods for all people, including those most at risk. (Cara)

Similarly, Mary believed that community food security could be used as an approach that integrates both food consumption and production including anti-hunger and sustainable food practices. Furthermore, she identified community food security as a way to incorporate all stakeholders involved in addressing food insecurity at the decision-making table where work to address food insecurity are prioritized and interventions determined. She said:

[Community food security] has elements from both the anti-hunger movement and the sustainable food practices piece....it is holistic. It takes into consideration concerns about food production and food consumption and they are united in community food security. Anyone who advocates this approach envisions food systems that are local, that are environmentally sound over the long term, supportive of collective rather than only individual needs...good at ensuring equitable food access and created by collaborative decision-making. (Mary)

5.2 The Role of PHNs

In this section, the PHNs reflections on current practice to address food insecurity within their organizational and municipal contexts are presented. This addresses one of the main objectives of the study, to identify how PHNs' are engaged in work to address food insecurity. The PHNs also discussed their ideal role for addressing food insecurity and provided insight into valued and foundational aspects of public health nursing practice that would be an asset to collaborative efforts to address food insecurity. Findings in this theme are categorized into two subthemes: (1) *Current PHN Engagement in Work to Address Food Insecurity*; and (2) *Enhancing the Role of PHNs in Work to Address Food Insecurity*.

5.2.1. Current PHNs' engagement in work to address food insecurity. Participants spoke about a variety of initiatives for addressing food insecurity that they engage in at the individual, community, and health systems levels. PHNs reflected on the past when they felt they had more of a role in efforts to address food insecurity, and “crave more” (Becca) engagement in addressing food insecurity. The activities described are categorized into three sub-themes: (1) *Temporary Relief to Hunger and Food Issues*; (2) *Community-Based Food Initiatives*; and (3) *Engaging with Decision-Makers*.

5.2.1.1 Temporary relief to hunger and food issues. For all but one of the PHNs in this study, ensuring client's access to food made up the majority of their role in addressing food insecurity. For the PHNs whose work practices involved direct interactions with mothers, individual level support, provided through home visits or phone support, was the largest majority of their work practices around food insecurity. Particularly for PHNs who completed screening for the *Healthy Beginnings: Enhanced Home Visiting* program¹⁰, assessing risk for food insecurity was part of regular interactions with mothers. PHNs stated that, although the term food insecurity was not a specific question listed on the Provincial screening tool, an understanding that financial difficulties often contributed to issues with food access prompted them to frequently inquire about their client's financial ability to acquire enough food for themselves and for their families.

Assisting clients with access to food through charitable programs was identified by participants as an important role for PHNs in addressing food insecurity. Overall, food banks

¹⁰ The *Healthy Beginnings: Enhanced Home Visiting* Initiative is one of three priority areas for early childhood investing in Nova Scotia. Through universal screening and in-depth family assessment, Healthy Beginning will enable Public Health Services to identify families facing challenges and to offer these families home visiting support for up to three years and/or referral to other health and community resources (Nova Scotia Public Health, 2014).

were acknowledged by the PHNs as the main source of charitable food assistance for clients who were hungry:

Food banks are the obvious first place I would send someone if they told me they were hungry. Sometimes people don't want to go to food banks because they don't want others to know they are struggling, other times they have no way of getting there. Sometimes, I have to drive them there... (Michelle)

Due to local food bank closures, two of the PHNs provided individuals with food they stored in their offices for emergency situations. PHNs also frequently made referrals to the local family resource center. No other sources of charitable alternatives to food were identified by the PHNs; they described assisting clients to access to food as challenging and the emergency support that was provided as “piece-meal”:

I think what ends up happening is a lot of like piece-meal stuff. Support from the food bank which is probably the most readily available support in this area but otherwise it's just trying to kind of piece something together for them. (Jacqi)

PHNs contended that food banks and other forms of emergency relief were a necessary structure in their communities and they supported their existence. PHNs believed food banks played an important role in helping clients with access to food in emergency situations:

I think part of the issue if you're working directly with clients who don't have any food or money is that policy takes a long time. An immediate thing you can do to help that family eat now is help them get to a food bank. (Michelle)

Nevertheless, all of the PHNs were aware that food banks were not a long-term solution to food insecurity, acknowledging they did not address the root causes of food insecurity to effectively eradicate the issue. In that regard, some of the PHNs used the word “Band-Aid” to describe food banks as a solution. Becca stated, “the emergency food outlets that I refer my clients to are only Band-Aids to the real problem. Most of my clients just don't have access to nutritious food on more than one level.” Becca explained that many of the mothers she worked with through the enhanced home visiting program had many compounding issues that contributed to their food

insecurity status. Most of the mothers involved in the program had low socioeconomic status, compounded with limited physical access to grocery stores — due to the rural and remote area in NS in which the mothers lived — and healthy foods that were unaffordable due to high prices of food in local convenience stores. Furthermore, Becca continued to explain that many of the mothers lived with stress and guilt because of the inability to provide their families with an adequate amount of healthy food. Jacqi described school breakfast programs similarly, stating:

It's great that programs exist like school breakfast program but like that is such a Band-Aid like they still go home at the end of the day and have no food for supper so like at least they're getting one meal a day but we spend so much money on these Band-Aids to just temporarily fix something. (Jacqi)

Becca further perceived charitable programs, such as food banks and school breakfast programs, as a way for the government to ignore the real issue of food insecurity and felt that they may even serve to depoliticize the problem of food insecurity and defuse arguments for more fundamental social changes:

Government can deny the fact that they have a role by hiding behind food banks. We had a disheartening comment made by a councillor – say publicly that the reason that people do not have food in their cupboards is because they aren't managing the social assistance properly. If our leaders have this attitude we've got a problem. (Becca)

The PHNs all agreed that, although food banks were necessary, initiatives targeting the socioeconomic and political conditions that contribute to food insecurity were the only way to effectively eradicate food insecurity:

These initiatives are what people see as the immediate response and it's what people know...they likely play an important role in reducing the negative effects that food insecurity has on health, food banks do little to alter the socioeconomic and political conditions that contribute to food insecurity experienced by clients. Food insecurity is a long-term problem that requires policy change, but that takes time to influence and change and measure. (JoAnne)

In addition to referrals to food banks, acting as a liaison to social support and providing opportunities to connect clients with other community resources and programs on an individual basis was also identified as a primary role for PHNs in addressing food insecurity:

If I'm concerned they don't have enough to eat, sometimes it's a question of not having enough income if they're on income assistance. Therefore, I have, on occasion, phoned their income assistance officer to see if there was any opportunity to increase their assistance for certain circumstances. It's very sad. (Jacqi)

Michelle reminisced about a time when she was involved directly with the development and delivery of community programs, pointing out that she used a health equity lens to help high-risk clients with access to the appropriate social support:

...you know 'cause transportation is an issue out here...I would have guest speakers come in so people were made aware of the resources in the community and ways we could help link them up. If I was doing the community kitchen for youth I would have the Addiction Services youth worker in for a class so that they could get to know those people. If I was doing moms and babies I might have a social worker in the community come in, or I may have the mental health worker that was in the area come in. So, guests would come in while the food was cooking and they would give a 5- or 10-minute spiel about what they do in the community and how to get in contact with them. (Michelle)

The PHNs recognized that recent changes in the delivery of breastfeeding support services, including targeting breastfeeding support services to high-risk populations only (i.e., *Healthy Beginnings*; Nova Scotia Public Health, 2015) and eliminating prenatal classes delivered by PHNs and transitioning support to online parental courses on the *Welcome to Parenting* website (NSHA, 2017), severely limited their engagement in the development and delivery of community programs and group education. However, the PHNs had the capacity to provide one-on-one education to populations identified as “at-risk” through individual interactions. PHNs provided one-on-one education on how to eat healthy on a budget and was acknowledged as a common topic covered with clients. For example, Joan provided education to mothers who qualified for enhanced home visiting:

If mom qualifies for home visits, we do more in-depth screening then we talk more about budgeting, how often do they get to the grocery store, how they get to the grocery store, and whether they utilize coupons and sales. (Joan)

Joan also provided one-on-one education to new mothers in an effort to “dispel the perception that breastmilk is negatively affected by poor diet quality of the mother and therefore negatively affects their infant.” Other PHNs involved with mothers and families in the *Healthy Beginnings* program emphasized breastmilk as being readily accessible and affordable for food insecure mothers who may be struggling financially. For example, Jacqi stated:

I think when I'm trying to help mothers who are struggling financially [with access to food], I provide information on the cost of formula versus the cost of breastfeeding and it becomes a bit obvious that breastfeeding is the cheaper option for sure. Sometimes mothers just need reassurance that the quality of their diet won't affect their breastmilk... and saving money on formula leaves a little more money for themselves. (Jacqi)

5.2.1.2 Community-based food initiatives. Participants spoke of a past when PHN's engagement included initiatives to build community capacity through greater involvement with clients experiencing food insecurity. Many initiatives were designed using a health equity lens to provide education and foster personal empowerment through self-help strategies through community-based food initiatives. PHNs reminisced about their engagement in community kitchens that provided education to at-risk populations based on their identified needs:

When we had community kitchens it wasn't just about us getting together as a group to cook but it was a whole teaching and learning endeavour. We started with the first class with an assessment of what good food was and then what they wanted to learn to cook because it was no good for me to tell them how to cook cordon bleu if they couldn't afford it. There was a whole assessment piece as to what do you like to cook at home, what can you purchase for your family. (Michelle)

Brittany shared her experience of her engagement in community kitchens for low-income mothers:

Typically, the initiatives that I have been involved in are participatory, community-based programs designed to enhance individual's knowledge and skills in food selection, shopping, and preparation and to improve their access to food. Like we have a

community kitchen for low-income moms. I follow up through a phone call and ask if they found the education helpful and if there is anything else. (Brittany)

Michelle described how her role in a community kitchen for high-risk youth once consisted of running the program, but how her role was now limited to referring clients to these same programs that are currently provided by public health nutritionists:

I refer my adolescent girls involved in the addictions program all the time to this evidenced-based program [name] through which we offer a healthy meal and discuss the recipe and economical ways to reproduce the meal – I guess I shouldn't say 'we'...I'm not allowed to be involved anymore. (Michelle)

Community gardens were also identified as an initiative that the PHNs were once engaged in. PHNs emphasized the social, psychological, and community benefits of such programs. PHN reported social support was an important reason for participating in community gardening, as well as enabling increased consumption of fresh produce, facilitating skill development and nutrition education, and providing some food to community members:

Some other things we had done is last year, I established a group and we created a community garden here at the [town] nursing home site. They just had a really good lawn, it's kind of like the center of our town, our children's school and daycare. It has a big walking track and the playground. So, we thought it might be a good place for it to be visible. So, community gardens, that's another initiative I did in the past and, although I don't know if as many people got involved as I had hoped, it definitely was really beneficial for those who were involved and even from peer support and mentorship and it also provides food in a dignified way. (Brittany)

The PHNs' "craving" of having more engagement in community-based food initiatives and sociopolitical efforts to effectively address the determinants of food insecurity are consistent with the roles and activities outlined in the *Community Health Standards and PHN Role Profile* (CPHA, 2010; NSHA, 2015). Calling on these standards and PHN role profile, all of the PHNs justified that they should have a role in community-based food initiatives and called for a renewed role in the planning and implementation of these initiatives. PHNs also discussed the desire to further contribute to engaging and mobilizing youth and other community members,

creating public awareness of the links between poverty, food insecurity, and health, and working together with other public health staff regarding such matters. These activities have a clear link to the public health nursing roles identified in Provincial and National public health nursing practice documents including, “advocacy,” “building capacity,” “building coalition and networks,” “communication,” “community development,” and “policy development and implementation” (CPHA, 2010, p. 19-26; NSHA, 2015). In addition, the key aspects of nursing knowledge identified in the CPHA (2010) and NSHA (2015) documents mirror participant views on social justice, SDH, reducing inequities, and promoting healthy public policy.

5.2.1.3 Engaging with decision-makers. The majority of PHNs described only one activity related to addressing food insecurity at the systems-level. Collaborating with other public health employees in a health equity action resource team (*HEART*) was described as the only opportunity to engage in “upstream” activities to address the entire range of factors that determine food insecurity that affects the health of the entire population (Hamilton & Bhatti, 1996). Upstream activities described by the PHNs included efforts to address poverty and food insecurity through public education on the links between poverty and food insecurity and ways politicians could help support initiatives to address these issues, as well as through policy advocacy and development. Becca specified:

If it weren't for HEART...I literally would be doing nothing at that higher level. It's probably the thing I love most about my job...being involved in real change...one thing we did we picked three health equity issues and when the elections were on in the fall where we wanted to do a forum for the politicians and it was housing, poverty in general, and food insecurity. We wanted to let the politicians know this is how you can help address these issues. (Becca)

The PHNs believed that upstream initiatives, which targeted the socioeconomic and political conditions that contribute to food insecurity were the only way to effectively eradicate food insecurity. Thus, being involved in initiatives they perceived as creating “real change,” provided

PHNs with a sense of job satisfaction. The PHNs described their involvement in the development of primer sheets for an upcoming municipal election and presentation at a municipal candidate forum, both which aimed to educate local municipal councillors on select SDH relevant to their communities. The SDHs highlighted included food insecurity, housing, and poverty. The forum also provided the opportunity to discuss ways the municipal government could support addressing food insecurity in particular. Brittany described this initiative:

We created and had approved and published some primer sheets for the municipal elections. Yeah, and so we sent them to all of the candidates and hosted a forum where folks were supposed to speak about how the municipality or the town council...this case could do something to impact any of those things - so it was housing, food security, poverty. It was good, because we had all those people listen to conversations about health and health equity and it was a bit of, like, not a panel, they each got to speak, but we did kind of insert some facts about the link between health equity, poverty and food insecurity too. (Brittany)

PHNs believed they should have more engagement in upstream activities based on their perception that their role as a PHN would provide a unique opportunity to effectively address food insecurity. Becca stated:

It would be a very positive step to have a public health nurse voice because we have the frontline first-hand experience. Public health nurses look at all the social determinants of health and look at all of these when we are working with clients. We look at the family support networks, income, and transportation for example. These things are necessary to effectively address food insecurity. (Becca)

Similarly, Michelle shared:

We absolutely should be addressing it and have to be doing something about it. We have such a unique role because traditionally we have had access into people's homes. I don't know of any other profession that has welcomed access. We actually go into people's homes to visit them, like prenatal and postpartum visits, and we see what it's like. That is incredibly useful information I think in the development of policies, you know to actually get rid of food insecurity. (Michelle)

Although, the other PHNs in the study engaged in initiatives to address food insecurity from an anti-poverty lens, JoAnne, was the sole PHN who described engaging in activities

supporting food system sustainability. She deliberated on her involvement in a local school garden:

I think that achieving food security also requires garnering greater local control over the food supply to ensure a locally sustainable food system. This is why I have been working with students at our local school with a new community garden, which I think is great! This new community garden has stimulated greater local food production and encourages the consumption of locally grown foods. Plus, kids are beginning to understand where their food is coming from like a potato comes from the ground, which is where their fries are coming from for example. It is motivating them to want to grow more and more. (JoAnne)

JoAnne attributed her extensive knowledge and engagement in food system sustainability strategies on the close working relationship with the municipal councillors in her area. She provided an example of how vital partnership with municipal councillors was to the sustainability of the school garden she supported students with:

We have an amazing partnership with the municipality. [He] accepts waste from the second-generation waste management facility, that accepts waste from across the mainland, and gives it to [school] to sustain our school garden. (JoAnne)

JoAnne was equally adamant about engaging youth for the sustainability of food system sustainability initiatives, indicating her role was to act as a resource for the youth involved.

JoAnne employed a wide range of project management and entrepreneurial skills that she described as things “done in the background” to support students:

Oh, I have to use many skills. A lot of the things I do are in the background. So, needs assessment, I help students figure out how to address these needs. Fundraising, so like identifying sources and helping to write proposals and grants. Building project teams, first identifying who needs to be on the team then assigning roles and project sponsors and supporters, helping with reports...background things like that. (JoAnne)

JoAnne has supported students with initiatives that range from education to connecting local agricultural projects to charitable food, and advocating for policy development:

...we have worked across the continuum...What I'm really proud of is when [we] organized a food security symposium, in which student representatives from fourteen different schools in our district came to and we taught them how to garden, from seedling

to planting to harvesting. The students did everything. I was just a resource. I realize that this won't necessarily eradicate food insecurity, but now they are so enthusiastic and driven that they are now writing letters to the provincial government and sitting on committees to influence food security policy. (JoAnne)

She has also supported students to advocate for a sustainable agricultural system:

...advocating to local municipalities to support the local school garden and invest in the infrastructure for environmentally friendly ways, and educational resources needed to get locally grown food to community members and help people benefit from this resource. This includes education on preparation and preservation of the food. (JoAnne)

In addition to supporting students' food system sustainability endeavours, JoAnne is involved in a working group to create best practice guidelines for edible school gardens:

I was just able to attend an edible school garden provincial workshop in November. There were people there from all the different school boards and it was more education directed. And what we were doing was trying to create some guidelines for best practice for edible school gardens. And out of that now, there's some working teams created to try to create these guidelines. (JoAnne)

and in the creation of healthy food policy:

I have worked with our municipality actually and they received some funds to create a healthy food nutrition policy for the municipality. And so, there was an opportunity there for me to try to encourage that policy, and what they may look like and deliverables and certainly there's been some impact I think in what's being offered in sports recs or places where they bring children and youth together, you know, what they're offering them for nutrition, there's been an awareness of that. (JoAnne)

5.2.2 Enhancing the role of PHNs in work to address food insecurity. In addition to discussing ways PHNs are currently engaged in work to address food insecurity, participants spoke of potential activities envisioned for PHNs that would enhance their role in this work. Additional public health nursing lead activities were perceived as an opportunity to help improve food security in NS, a named provincial public health priority. Activities are categorized under the three sub-themes: (1) *PHNs as Advocates for Food Security*; and (2) *PHNs as Leaders in Surveillance of Food Insecurity*; and (3) *PHNs' Renewed Role in Community-Based Food Initiatives*.

5.2.2.1 PHNs as advocates for food security. An advocacy role for food security was primarily grounded on the perception that PHNs were the “eyes and ears of the poor” based on the historical legacy of working with clients directly in their homes and the unique information they were privy to because of this position:

We are privy to unique information that numbers can't capture, demographics or other epidemiological data. So, we are the only profession that witness first hand living conditions of families...their experiences of living with food insecurity, poverty. We can bring to our municipal government what families identify as their support needs...you hear us being called the “eyes and ears” of the poor. (Jacqi)

Other PHNs, particularly those working in a leadership position in school youth health centres, described advocacy as a commitment to support the active involvement of those whose lives are affected by the issue. These PHNs identified their role as ensuring the voice of communities' youth are involved in the development of both food and social policies:

I think to be able to acknowledge that working with young people around policies [food and social] is important. And I think that gets lost sometimes. I often hear people say well they're our future, well they're our future but they're our present too you know. They're citizens today, they're articulate, we just need to like you say, give them that knowledge, that knowledge transfer, that information and you know, change happens from the ground up and I do think that you know, there needs to be more work on this. (JoAnne)

While advocating for policy was a new role for many of the PHNs in this study, Jacqi eloquently pointed out that PHNs “can apply the leadership and caring skills they used every day in daily practice with their clients, including interdisciplinary collaboration, advocacy, and education.”

5.2.2.2 PHNs as Leaders in Surveillance of Food Insecurity. Contiguous with advocacy, participants indicated that because PHNs work directly in client's homes, they are in an ideal position and, if given the capacity, could assume a lead monitoring role in efforts to address food insecurity. PHNs felt that they could assess, record, and share stories of client's personal

experiences living with food insecurity, including the effects of food insecurity on the health of clients and families, the conditions or events that made clients and families vulnerable to food insecurity, and the direct impact of social and/or food policies on people's lives:

I think public health nurses are credible partners to address food insecurity. We have like in the 20 years here that I've been working I've very, very, very rarely not been allowed in the house. Very rarely. And this puts us in an ideal position to play a vital monitoring role. By monitoring, I mean through assessing and recording the effects of food insecurity on the health of our clients and their families. (Becca)

However, Cara was quick to note that "if PHNs are to assume a monitoring role in addressing health inequities at the [system redesign level], their role must expand beyond the realm of direct patient care". Participation in public health *HEART* was identified as an important role for expanding the PHN role beyond direct patient care and for strengthening partnerships and collaboration with public health colleagues for food security. Participation in *HEART* was believed to give PHNs a platform to educate policymakers on the direct impact of social and food policies on clients and to advocate on ways the municipal government can be involved in addressing food insecurity through policy action. Jessica critiqued the current policy-making process in NS, on the pretense that typically policies were made with limited education on such issues:

Policy making is often passed through legislation regarding health care, education, housing, and taxation without a complete understanding of the ways in which these policies impact people or their health status. (Jessica)

The growing awareness of SDH among municipal government officials affords PHNs with a new opportunity to advocate for the health of their clients and communities:

...that's where our education around social determinants of health can help community members who are not used to that terminology. Like I feel that's our role to engage our community in conversations about equity and food insecurity and how, like I think it's conversations and building connections but if we could get like an advocate for it that was I don't know, somehow more influential or had decision making power possibly I

guess would be important too right? So, they could be municipal councillors and stuff like that, someone, yeah. (Brittany)

5.2.2.3 PHNs renewed role in community-based food initiatives. The PHN participants who no longer had a role in community-based food initiatives to address food insecurity expressed a desire to be involved in these activities, particularly in community gardens and community kitchens. PHNs believed that community-based food initiatives were an ideal arena for food skill development and nutrition education for participating individuals. PHNs, working in rural areas in particular, felt that they should not only have a role in running community-based food initiatives but could also be involved in program development and evaluation of these activities. Becca provided an example related to community kitchens:

I think we need to have more to do with outcome evaluation of things like community kitchens...so like we need to know why we are doing something and if it makes a difference to the people we are doing it for. I don't think we have a very good track record about like evaluating stuff. (Becca)

Ensuring that community-based food initiatives are situated in all types of neighbourhoods, including low-income neighbourhoods or neighbourhoods with high levels of immigrant families was also identified by a number of PHNs. Becca stated that PHNs can “look at who current services are not reaching and whether they’re benefiting from what is available.”

5.3 Navigating the Terrain of Food Insecurity

As discovered in the previous themes, PHNs in this study had a role in addressing food insecurity and had the authority to do so through mandated policies, standards, and practices for doing so. However, upstream action for addressing food insecurity, such as policy advocacy that moved beyond the current roles of the majority of PHNs who participated, including helping clients with the provision of food and referrals to charitable food programs, was sporadic and limited. Thus, within this theme, the constraints that need to be surmounted to enable PHNs to

engage in upstream action to address food insecurity are explored. I provide PHNs' reflections on the important elements of their practice perceived to have been lost and, on the structures and processes that have created tensions to an enhanced role in work to address food insecurity. The four sub-themes that open understanding to the constraints of the PHNs' role in addressing food insecurity initiatives include: (1) *Frontline Care*; (2) *Organizational Culture*; (3) *Structural Influences*; and (4) *Ambivalence about the Public Health Nurse Role*.

5.3.1 Frontline care. PHNs discussed how the perceived narrowing of their scope of practice into a very specialized list of tasks precluded them from engaging in sociopolitical action to address food insecurity. Despite a job description consistent with national PHN competencies, the PHN role in this Zone had become heavily based on the provision of clinical services, in particular providing individual postpartum care, vision screening, and immunization. The PHN competency states:

...the optimal scope of the RN in a public health setting...the PHN works with community partners and stakeholders to advocate for and take targeted action in creating supportive, social, economic, and physical environment that support the health of individuals, families, and communities...focused on health inequities and often done with the broader intent of improving the population's health (NSHA, 2015, p 2),

Although the PHNs acknowledged these services were important, these tasks were seen as preventing them from enacting an enhanced role with regard to sociopolitical action to address food insecurity and population health promotion in general. Michelle explained this with regret, "Not that immunizations aren't important, they're very important...but they just always seem to come to the forefront and...everything else gets pushed to the side." Becca observed:

Over the past probably 8 years, our role is getting pushed more and more and more funneled into very, very specific tasks. We've lost a lot of our non-task things so it's bringing it into a very, very, very specific focus. And now I'm working mostly with the 0 to 5 population. Actually, it's probably always been the 0 to 5 but there were other activities that gave us a high profile in community that are gone. (Becca)

Like Michelle and Becca, several of the other PHNs use the term, “pushed” to describe how they have come into their large focus on tasks. The PHNs expressed being pushed out of population health promotion activities, including policy advocacy for addressing food insecurity, and pushed into tasks that focused on weighing babies and promoting breastfeeding or providing hospital-like services in the community. Jacqi questioned the value of this PHN approach:

We have always had a focus on breastfeeding, which is absolutely important, but in my opinion, we have lost some of the other stuff...some of the long-term stuff. Like so much focus on weight-loss and supplementation. I question how many babies die from starvation versus suffer from the long-term stuff that we need more focus on as public health nurses, like the financial stuff, like do they have a safe place to sleep at night. (Jacqi)

Becca acknowledged the importance of supporting women to breastfeed; however, her job had become in-home individual clinical care and health education in the postpartum period for mothers identified as “at-risk”.

PHNs felt they had become “pigeonholed” into specific tasks by clients and community partners due to their current specialized roles. They lamented a belief that the public no longer saw them as a partner in population health promotion and inadvertently viewed their role in a compartmentalized and limited way based on the tasks that they were assigned to do on a day-to-day basis. Jacqi explained:

If you start to be looked at as only the nurse that gives the shots, then it...pigeonholes a person into that role. If that's the only thing they see us do, then maybe they're missing the wealth of knowledge that we actually bring to a community. (Jacqi)

Joan echoed this sentiment, “sometimes I show up at the school and the teacher says, ‘oh look, it’s the needle nurse!’”

Some of the PHNs observed that the strong emphasis on tasks within their assigned public health program¹¹ had resulted in a loss of a “generalist role”, what the PHNs described as a role that gave them the ability to expand their engagement to a wide variety of public health programs, perceived to enable them to engage more frequently and freely in the community. Thus, the more specialist role that some of the PHNs felt they were currently confined to, was viewed as distancing them from the community. Jacqi explained:

I talked about that recently, about this feeling that like not just Public Health but lots of nurses are feeling like we're supposed to know our communities better now...but I see less opportunity for us to be in that role...its slowly being eroded and like people are feeling really distanced from like actually understanding what's happening in our communities. (Jacqi)

Becca used the same words when she stated, “it’s frustrating. I see more and more of the things that we were able to do being eroded.” Jacqi offered an example related to food security:

There is not so much opportunity to be involved in the community now. I mean we've been asked to move away from home visiting so like it's not offered to everyone anymore. It was at these home visits where, you would see families and say 'oh, this is where you live,' and 'do you have enough food to eat?' ... So, I was seeing babies in the home and then seeing them at 2, 4, 6, 12 months and 18 months so you developed a rapport with people and really got to understand their experience. (Jacqi)

In addition to separation from individual clients in the community, PHNs observed that they had also “lost a voice” (Becca) in the broader community, further exacerbating their separation. She reflected:

It's not good. Public health nurses have lost a voice. Public health nurses, there's no, like we could always go to the community health board and facilitate discussions with them...share issues that come straight from the community. Well now, public health nurses are not sitting on community health boards anymore. We are even pulled from those arenas. (Becca)

Brittany also felt frustrated with not being allowed to be involved in community initiatives:

¹¹ In NS, Public Health comprises five core programs: Communicable Disease Prevention and Control, Environmental Health, Healthy Communities, Healthy Development, and Population Health Assessment and Surveillance (NS DHW, 2013).

We had to step down on some of it and have another community organization do that part of it because public health wasn't allowed to be involved in it. So, I know that's been extremely frustrating. Well, I'll just give you an example. Like in the election, we couldn't, public health staff were told that they could not publish articles. It would have to come from another member of the team that wasn't employed by public health. They want it to come from the public, but it won't come from the community unless there's leadership provided to organize them. Like one of my colleagues is involved in Seniors Take Action. She has people in the community that have the skills, have the time, have the interest, have the energy, but nothing happened until she kind of got the leadership, until she was there. (Brittany)

As a result of separation from clients and communities, the PHNs felt they had a lessened knowledge of the community and were not necessarily aware of the issues, which had implications for their engagement in addressing food insecurity. Joan explained,

We're kind of out of the loop for what's happening in the community. So, if someone is struggling with food insecurity, you're out of the loop. You might hear about it from home visitors...we kind of miss what's happening, because we're not seeing them day to day...you kind of lose touch that way...we don't have the full knowledge that we used to have of the community. (Joan)

Echoing Joan, Michelle stated:

If I found out tomorrow that there was somebody without any food then I would be all over that right. But chances are me finding out that there's somebody with no food is very slim to none because I'm not visible in the community anymore. (Michelle)

These PHNs comments accentuate the value of being present and visible within their communities and being integrated into various aspects of their clients' and communities' lives. Their comments also allude to once having had that, suggesting that PHNs now spend a limited amount of time with families and communities. This speaks to decreasing visibility and declining relationships in the community.

Due to perceived invisibility, PHNs stated that they struggle with maintaining the credibility of public health in the community. Participants felt this has lead clients and

community partners to be unaware of the resources PHNs have to offer, leading to an under-utilization of their services. Becca provided an example in regard to food insecurity:

I think clients could think public health nurses could be just as credible in addressing food insecurity as the nutritionists. But I think, just in general, I think people don't see even, public health nurses are still seen as people who do those task-based things so it's hard to move away from that image and they [clients, other health practitioners, community partners] don't reach out to us. (Becca)

Michelle identified the lack of visibility as affecting relationships, contributing to limited partnerships in the community:

The relationships and trust have taken a hit, since the last couple years when I've been taken out of all these roles. It is unbelievably sad that people don't know what we do anymore...public health nurses are not that visible in the community anymore. (Michelle)

One of the municipal councillors supported this idea by stating “honestly, you never hear about public health nurses anymore... I don't even know what they do anymore...I'm sorry to say. I don't work with public health, but I feel maybe I should” (Daniel).

Interestingly, some of the PHNs expressed that they too struggled at times describing a clear scope of practice. Brittany asserted that:

Recent changes to our role that has happened during the [NSHA] restructuring process, like limiting breastfeeding support and pulling us out of community, like no longer in community kitchens or prenatal classes, we [PHNs] I find sometimes have difficulty explaining a clear understanding of full scope of practice. (Brittany)

Jessica, a health equity expert echoed this sentiment, stating that she has witnessed her PHN colleagues question their core competencies due to frequent role changes within public health:

I think [PHN] undersells herself, I think she doesn't realize to what extent she's grown cause she's been involved with the HEART group and she engages me quite often in conversations. So, I think, I mean their roles are changing as well. Like you know all three of our public health nurses here have a long history with public health and their role has changed considerably so I wouldn't be surprised if any one of them were feeling, like you know around they're questioning their own core competency. (Jessica)

5.3.2 Organizational culture. Organizational culture and PHNs' perceived administrative shortcomings were identified as factors that influenced their engagement in work to address food insecurity. In an effort to provide a depiction of her organizational context, Michelle drew me a picture. She started by drawing the complex and labyrinthine outer border. As she drew, she commented, "This is how I think..." Then, she placed her pen firmly and pointedly into the middle of this space and drew the four-sided box. Tapping the inside of the box she proclaimed, "...and this is how my manager thinks." The box inside the space represented the organizational culture that she felt had left PHNs "feeling confined in a specialized role," "limited in their opportunities for health promotion," "disconnected from clients and communities," and "restricted in their autonomy."

The PHNs talked about the struggle between what they should be doing in practice and what they were actually doing. Becca described it as follows:

You're still expected to do your role at a certain standard, not just according to your employer...but to your own governing body, and to yourself as a professional and an individual, and you have standards. And when you feel like you're just playing catch-up a lot of the time, it's hard to address those real issues. (Becca)

Michelle elaborated:

It's like I have my agenda, that our managers want me to cover this and this and this. But for me, [the client is] the most important person, and that's how I always start my visits with clients.... because I think that is the basis of building a relationship with the client, and we're so often forced by our managers, 'you must do this and this and this' and it's focusing on tasks, like you have to weigh and measure, you have to do postpartum depression screen. And for me, it's what the client has...what they bring up I guess what their issues are is what you deal with first. (Michelle)

The PHNs revealed that they were disheartened and limited in their role in engaging in addressing food insecurity. Joan spoke to this:

It's disheartening to think what you want to achieve and what I'm expected to do. I mean I'm really limited in what I can do on a bigger scale in terms of addressing the social determinants of health, yeah like food insecurity in this case. (Joan)

Although PHNs preferred to engage in work to address the SDH, they were required within their day-to-day work to prioritize tasks over population-based health promotion activities. When Jacqi said, "...it's hard to do just what needs to be done," and Becca reinforced that her time is filled with "...getting things done that we need to get done," and Joan emphasized that PHNs have to "deal with the ...stuff... [that is] ...most pertinent," they insinuated they felt overburdened with the mandated tasks of their day-to-day work. Becca mentioned that in addition to mandated tasks, she was also responsible for attending to urgent client issues that arose throughout the day, including reports of mothers not having enough food to feed themselves or their families, babies failing to thrive, and domestic abuse. Becca stated that the compounding mandated tasks and responding to urgent matters often meant that she missed attending *HEART* meetings - where most of the population-based functions of her role were completed - due to conflicting times constraints. She stated:

We spend a lot of time-solving pressing situations, which leaves us less time for the community work, even although we have a passion for it. So, the priority is automatically given to the post-natal work. And that's a problem. Like I've had to miss HEART meetings because of that and that's embarrassing. (Becca)

Seeing as many of the PHNs in the Eastern zone are the sole public health personnel available to provide clients with immediate support, limiting population-based action to address the SDH was a common realization for the vast majority of the PHNs in this study.

In accordance with the PHNs, one of the health equity experts felt a lack of leadership in public health had also limited the role of PHNs in population-focused health promotion:

Public health in my view doesn't invest a lot of time to build leadership because part of building leadership is giving people the responsibility to take on projects supporting them and trusting them to be able to do it. But people keep getting pulled into more what I view as private health care delivery, not public health, like you know our public health nurses, for example, I mean you know the stuff that they would really like to be doing and building skills at, they're still going out and doing immunization and stuff like that. So,

it's kind of, and then they're not necessarily focusing immunization on priority populations either so it's not even addressing the health equity component of it. (Jessica)

Indeed, organizational drivers of PHNs' workload consisted of centralized programs that included grade seven immunization, enhanced vision screening, *Healthy Beginnings: Enhanced Home Visiting*, communicable disease, and injury prevention. Medical officers of health, with decision-making authority that influenced PHN practice, led these programs. PHNs discussed the role the organization played in influencing current practice directions. One PHN described the public health organization as a "dictatorship" (Michelle) based on her perception that PHNs were constantly navigating competing workload priorities, but not included in decision-making processes. She explained this in relation to food security initiatives:

Oh, yeah everything's still up in the air, right. And who knows this time next year they might be telling all the public health nurses to do community kitchens or run some kind of program to address food insecurity...what I can guarantee is that this will be just added on to everything else I have to do and we [PHNs] won't be involved in that decision! (Michelle)

The PHNs expressed frustration because the organizational focus and program direction were incongruent with their PHN practice philosophy. Participants considered numerous PHN roles that were no longer possible, for example, community development activities such as working with coalitions or community partners. PHNs stated that there was no longer a PHN focus on health promotion and an inadequate focus on inequities. Current equity work was limited to clients enrolled in the *Healthy Beginning* program, accounting for a relatively small proportion of PHN time in most units. Jacqi described the impact of this task-based approach on equity:

In terms of equity, my experience with families that aren't accessing service, or don't have the same resources, those are people that really need a long time when you visit them. And I don't always have that because I'm rushing off to the next visit or I've got a couple postpartum moms that I need to see. Those families that really need that help, you could be in that home many times and can develop a relationship where you can really

make a difference. How my job is structured is difficult to do that, so we are missing the boat in terms of an equity strategy in that way. (Jacqi)

One of the health equity experts credited the current organizational culture as limiting the use of health equity tools in public health nursing practice. In 2015, the NS DHW released the cross-cutting *Health Equity Protocol*, which arose out of a dedicated two-year renewal process helping staff “understand the principles of health equity and social justice, develop critical analysis skills, and apply health equity approaches and tools” (p. 3). Jessica reflected on a local project in the area, confirming a need for an organizational culture shift to one that presumes the use of health equity tools in all public health activities, including program and policy development, implementation, and evaluation:

There was an initiative here, and they discovered as their work progressed, it became clear that there needed to be a culture change because everyone [PHNs] kept saying they didn't know how to use the protocols or any of the tools that are out there to help integrate health equity in a practical sense. They felt uninformed on how to use them I guess. The focus needed to shift to changing the organizational culture to one that presumes the use of health equity tools in all of its work. (Jessica)

The PHNs spoke heartily of a past when the NS Public Health renewal was first introduced in 2006. With the goal of envisioning a system renewal by strengthening strategic, structural, capacity, and processes, one of the PHNs described the organizational culture pointed towards a “follow your passion” (Becca) mantra. Although not formally documented as such, the follow your passion mantra was perceived to enable public health employees to explore the upstream approaches and address health equity issues by creating the appropriate structures and support for action. As Brittany explained:

My understanding of the ‘follow your passion’ mantra at the time and I thought I had a pretty clear idea of it was and those were the direct words they used, you know explore the upstream approach for health equity. ‘If you could design a project to work on, what would it be? Tell us about it. You know let the other things that other people can do, let them do it. Like we’ll take you off immunization clinics because physicians can do that. We’ll take you out of lice checks in the school because parents can do that. (Brittany)

Under this mantra, PHNs remembered a time when their less structured workload enabled partnering and “connecting with the community” (Michelle) to address health equity issues. However, PHNs felt that this organizational culture was short-lived due to perceived lack of management direction, guidance, and support; findings consistent with the *Renewal of Public Health in Nova Scotia - Mid-Course Review* (2012). Becca begrudged:

Maybe it's only 6 or 7 years ago it [public health renewal] was released, we went to a meeting and we were told follow your passion like they wanted to take away a lot of the structured programs for us so we would have this time to follow our passion. So, this other nurse...and I, oh my God. We had everything short of a clinic going down in one of the high-risk apartment buildings. We had everything planned for it and we went through this long process of documenting the needs of the people living there. Went all through that and we were told, no, no supports. So that was a bitter disappointment for me. Huge, bitter disappointment because we were told on the one hand to follow your passion and we did follow our passion and we were told no. Well at any point along the way they could have told us that, or at least if they're going to tell us to follow our passion, they better had made it clear that we would have the supports that we need to follow our passion. So that was a disappointment. (Becca)

In addition to lack of support, Michelle further recounted that she felt that she was often discouraged by management from participation in population-focused health promotion programs:

The managers put a lot of emphasis on this population-focused health promotion approach and finally when it clicked with all of us, well of course that's the way to go. Of course, it is... we've got a wonderful staff here of people that would love to be doing up-stream stuff, but no support or guidance or even encouragement. Yeah, we're not even encouraged. Like I was discouraged from doing that program with the postpartum moms. Not only was I not encouraged, but I was discouraged from doing it. (Michelle)

Some of the PHNs expressed a belief that their managers viewed population-focused health promotion as something you do if you “have time left over for finishing your regular work.” (Jacqi). Other PHNs stated that their supervisors did not “value taking the time to attend community meetings when tasks needed to be done” (Michelle). Jacqi provided an example in regard to food insecurity:

Yeah, becoming involved in the [name of] Coalition is something that I could become involved in as part of my committee work, but we don't have much push to become involved in things like that. Unless you make your own time or work overtime on it.
(Jacqi)

One of the PHNs considered public health's "reliance on statistics" (Joan), which focused on tangible, easily measurable health outcomes, including breastfeeding, infant weight, and immunization rates, promoted her role at the individual level through home visits or phone support. Joan continued to explain that she believed that these statistics submitted by PHNs "did not reflect the scope or depth of the role". She stated: "if we need to keep 'stats' let's improve how we do that so it accurately reflects the work that we do and places value on the work that we do." Work that was measured seemed to equate with valued activities within the organization. One of the municipal government officials corroborated this perception, indicating that in the case of immunizations, funding was based on doses of vaccines administered (Catherine). In terms of health equity, there were no measures that reflected the complexity of working with vulnerable populations.

Lastly, another PHN observed that the majority of the orientation of new staff focused on skills associated with clinical health assessment and breastfeeding, which she believed equated with valued activities within the organization. Jacqi, recalled her experience entering public health, in that broader PHN practice elements such as health equity were allocated an hour or two in the orientation schedule. She commented, "...and so how can we expect our workforce to be community-based or work on health equity when we're not giving them the skills at the beginning." Conversely, a two-day breastfeeding orientation was only the introduction to developing that skill. Some of the PHNs continued their education and became certified lactation consultants. Jacqi reflected on these organizational influences:

Is it the focus that we want the public to see us as? That breastfeeding, postpartum visits is our role? I'd be curious to see how other PHNs describe their role. Breastfeeding, postpartum. I think as an organization we are unconsciously feeding that perception.
(Jacqi)

5.3.3 Structural influences. Participants identified societal structures and processes that influenced their role for engaging in addressing food insecurity. In this case, 1) recent health authority amalgamation; 2) geographical location of the public health units; 3) local government knowledge, skills, and responsibilities; and 4) societal trends in undergraduate nursing education where identified at structural constraints to PHNs' engagement in addressing food insecurity.

5.3.3.1 Recent amalgamation of health authorities. The recent amalgamation of nine DHAs into the provincial-wide NSHA with four management zones in 2015 (NSHA, 2016) was identified by PHNs as a key influence shaping their work practices. PHNs anticipated changes in their roles due to the perception that the amalgamation had resulted in another shift in priorities within the NS public health system towards more upstream, community-level strategies to promote health. Several of the PHNs indicated that this shift may support PHNs' work practices from providing individual care and support to an emphasis on policies and programs aimed at addressing the SDH. Key changes in the delivery of breastfeeding support services including targeting breastfeeding support services to at-risk populations only and eliminating services such as parental classes delivered by PHNs, reflects a shift in values prioritizing health promotion approach (NSHA, 2017) and focus on upstream strategies to promote health in NS (THRIVE; Province of Nova Scotia, 2014).

Despite PHNs' optimism towards potential health system support for increased engagement in upstream action, the amalgamation of DHAs was described by PHNs as "chaotic" (Jacqi), and in a "constant upheaval" (Becca). Participants were frustrated with the slow

restructuring process and felt that there has been a delay in the shifting of public health priorities upstream, subsequently limiting PHNs' engagement in addressing food insecurity. Jacqi stated:

Right now, it feels completely chaotic and has definitely limited my current action on food insecurity. We're waiting on kind of our lead positions to be filled, consultant role positions but I mean the restructuring started in April of 2015 but I think it was June of 2013 that we got this guiding document on what Public Health will look like and we still haven't gotten to where that document says we should be in terms of addressing health inequities like food insecurity. (Jacqi)

The standardization of the delivery of programs and services across the province, which is also implied in the NSHA Strategic Plan 2016-2019 that describes the goal of implementing “provincial health service plans” at the local level (NSHA, 2016), was also identified as influencing PHN work practice. Participants felt that provincial standardization of services created more channels of communication, requiring more time and resources for communication, and limited time and support for engaging in addressing food insecurity. Brittany described how more channels of approval limited advocacy efforts:

You have to be mindful of, you know, even to publish things, even if they're very positive messages, there's so much to get something published through the Health Authority. It used to be a little bit easier when we had smaller health authorities. Like press releases and responding to things. It's really difficult to get approval to kind of advocate I find. I think advocacy is something that people are always wanting to do, but maybe sometimes a little bit hesitant because of the difficult process. (Brittany)

Furthermore, PHNs were confused about processes for improving or creating new tools they felt would be beneficial to their rural communities and questioned the local applicability of centralized, provincial tools and programs:

In terms of some of the higher-level tasks, like, I found ...it's become less clear about how we change what we're doing. In the past, it had been like at a local level we could kind of make those decisions about you know making a new screening tool so you know when we're talking to people on the phone like we could you know collaborate with health equity experts to come up with you know these are the questions that we could ask in a sensitive way to have a better sense of whether people are experiencing food insecurity. We would send that to the forms committee at the local hospital and it would get approved and we would just start using it. Now everything has to be run through

provincial channels so it's like is Public Health across the whole province willing to adopt this and if they are not and I've been told that you know it's not for me to be involved with at this point. It is so frustrating. I know you have this bright idea and then it's like well it can't go anywhere right now. (Jacqi)

PHNs described a loss of autonomy in program development and ideas often became “stifled” waiting to be approved through provincial channels:

Ideas become so stifled. It feels more like that now that we're provincial, kind of that waiting feeling of like something is coming from somewhere and I think a lot of nurses can kind of get into that mind frame it's like someone will make that decision but I find that difficult because I'm like well I know what's happening right now and what needs to happen and maybe someone in Halifax isn't seeing the same thing. (Jacqi)

A lack of communication from senior leadership during the amalgamation process was identified by PHNs as causing a lack of role clarity among all staff. In fact, a couple of the public health managers divulged that in a recent evaluation of the amalgamation process thus far, role clarity was identified by public health staff as the biggest challenge within this process.

Accordingly, Cara stated that “even the people in the frontline are kind of like ‘I’m not even sure what I am supposed to be doing anymore.’” The PHNs stressed about the lack of communication from senior leadership in the implementation of the new health equity consultant position in particular:

I think when I started in this role there was no communication. Like nobody was advised what the purpose of this role was, which I think was a, I would say is a criticism of senior leadership that no communication went out, nobody was told what the purpose of this was. (Cara)

Subsequently, none of the PHNs were able to describe the role of the new health equity consultant nor were able to identify how the health equity consultant would support them in their work. Becca stated:

No idea if the new consultants will help... That's kind of a big gobbledygook right now. We don't know their roles, we were never told their roles. In fact, we were told that there was no money left and then these consultants were hired. And somehow unless we

physically see them on a regular basis or have good communication with them, they won't be useful. (Becca)

Making matters worse, with little knowledge whether the health equity consultant would be able to support them, many of the PHNs felt their health equity efforts may be further affected because of the aggrandizing of the health equity expert positions into a managerial position. Cara explained how the introduction of health equity consultants lead to the subsequent demise of the frontline health equity leader positions with whom the PHNs reported working closely with to increase their efforts to implement a health equity lens in practice:

...the job was so similar to the current health equity lead...a unionized position in public health... And then the consultant positions came out and they were non-union. So, they were non-unionized, getting less pay...more hours, less job security because they are non-union. So, through the grievance process and into the hearing, where they ended up settling...what they ended up settling on is the consultants would stay non-union, but they would have to rewrite their job descriptions to better reflect the non-union pieces of work. So, they are rewriting them actually as managers, but still with those focus areas. (Cara)

Cara provided two reasons why making health equity expert positions managerial positions would detract from providing support to address health equity at the frontline. First:

...because they are making them more managerial, there are a couple of issues I see with that, just from my experience, one that, which nobody will deny, is that their time is being pulled into performance appraisals, approving vacations, hiring, stuff like that and less time for that content expertise, which is really what the health equity lead and the health promoter did. The health equity promoter was more on the ground, out in the community and mine was more ok for the public health system level – the zone. (Cara)

In addition to being pulled away from providing content expertise to frontline staff and into managerial tasks, Cara also believed that staff would be intimidated from using the health equity consultant as a content expert for fear of being reprimanded for perceived lack of knowledge about health equity:

The second issue I see with it...is that they had the trust of the team because they weren't doing performance appraisals...the manager was responsible for that. So, now when you have your person who is supposed to be building your capacity of the workforce also

doing the performance assessment, which basically can determine whether you keep your job or not, that's going to create tensions. It's not going to create a trusting relationship where staff can say, 'hey look, I'm really struggling with this, can you help me'. The lead and promoter had that, people would go and say, you know 'I know I should know this but I can't figure this out, can you help me', and they knew that wasn't going to be tied to their 'she doesn't really get it, so you better watch out.' (Cara)

5.3.3.2 Geographical location of the public health units. PHNs discussed how the rural location of the public health offices within the Eastern Zone influenced their work practices. Public health managers reported having difficulty recruiting and retaining qualified public health personnel in the area. In effect, PHNs acknowledged that they had far fewer public health employees to collaborate with compared to larger towns and cities in other Zones. A lack of human resources and a high turnover of staff posed unique challenges that took attention away from health promotion activities:

It's hard to keep health care professionals in this rural part of Nova Scotia. People drive in and left and drove out...I think the barriers with this is that public health is changing and what used to be a community public health role is now changing to a higher level public health functioning team. Which is not a bad thing, but when you only have one public health nurse in the area and you only have one dietician in the area who works in acute care...there is no other support for things like food security or you know any health promotion. (Michelle)

A lack of coalitions was also identified by PHNs ability to work towards more upstream, community-level strategies to promote health in line with the shifting NS public health system priorities. Community coalitions were identified by PHNs as necessary to improve the health and social outcomes of community members through collaborative efforts. However, several of the PHNs felt that due to the nature of working in rural areas, having a full range of community sectors represented was impossible simply because they did not exist. Thus, PHNs' role focused on providing individual support and follow-up documentation and had little time or support to address issues such as poverty, housing, or food insecurity. Becca shared her frustrations about

how her role in addressing food insecurity, as well as other SDH including poverty and housing, was limited due to lack of support in her rural location:

One really frustrating thing is...typically the leaders are up there for the 0 to 5 group [Early Childhood program¹²] and there's quite a difference in the practice even between here and there. The nurses there aren't worried about poverty because there's a poverty coalition. They aren't as concerned about housing because there's a housing coalition. So that impacted on us because there was a huge workload in the 0 to 5, like there's so much paperwork, there's so much charting and documentation. They were able to keep up with addressing food insecurity because they had the outside support. But we don't have that outside support down here so when we get called, like if we do a home visit and there's mold in the house we have to start the search and where to go. Whereas up there, there is somebody that they can call. (Becca)

5.3.3.3 Local government knowledge, responsibilities, and priorities. Municipal government knowledge, responsibilities, and priorities influenced PHNs' engagement in work to address food insecurity and was related to the geographical location of the public health locations. During the data collection process, municipal elections were conducted throughout the municipalities. Local politics, at the time of the study, were described as drifting towards conservative market-oriented public policies. Although municipal elections were non-partisan, participants discussed how historically there has been lack of support to address the structural determinants of food insecurity from municipal councillors because they were generally more conservative in their thinking, resulting in victim-blaming:

The councillors in our municipal government severely inhibit food security initiatives with their blame the victim way of thinking - very conservative way of thinking that people should get off their butts and go to work. Blame the victim is not going to solve any problems. Not only has this caused a lot of stigma and people are afraid to get help, because of this way of thinking, addressing policies leading to some of the structural determinants of food insecurity is a rather low priority on their agenda and really hasn't been realized in the local budget or operational plans. (Becca)

¹² The Early Childhood program is within the NS public health Healthy Development Division, which focuses on health promotion and illness and injury prevention in early childhood.

The public health participants also believed that historically municipal government officials had a lack of knowledge on the SDH and ways the municipal government could help address the SDH, which limited action:

Up until now, their knowledge has been very, very limited. There was a municipal councillor from [town] he said at a public meeting ‘those people who use food banks just don’t know how to budget their money’. That was 4 years ago. I don’t know if we’ve advanced much since then. So, the short answer to that is I don’t think they have a broad knowledge, they didn’t up until now anyway of the social determinants. I don’t think they’re making that connect, I really don’t. (Becca)

Any action from the municipal government to address the SDH was a slow process, and was perceived by many of the public health employees as not effectively addressing the root cause of the issues:

Even when they [municipal government] do do initiatives to address the social determinants it’s such a slow process. Recently someone was saying like that the list ‘oh it’s great we just got these new housing units that are coming for those who do not have safe places to live’. There’s six units something like that and there’s 138 people on the list for low-income housing. So, it’s like it took 15 years to get these new units and it doesn’t even put a dent in the issue. (Jacqi)

Despite a history of perceived lack of support for action on the SDH, PHNs were hopeful that these issues would become a priority, describing the new municipal government candidates as a “socially conscious bunch of people” (Jacqi), and “very, very community oriented” (Becca).

Most of the municipal government official participants felt that they were well versed on the SDH and all believed that local municipal governments had a role in addressing food insecurity. There were differences in the municipalities on whether food security was “considered a priority” (Robert; Daniel), or was in the stage of “gaining awareness” (Catherine; Briana). Municipal government participants who considered food security to be a priority in their municipality specified that personal experience, including growing up on a farm and having vegetable gardens at their homes, have instilled in them an understanding and appreciation for

the availability of healthy, local, organic food for all community members. For the municipalities that indicated they were in the stage of gaining awareness, knowledge of food insecurity was recent, provided to them by a “group of passionate people”, including public health *HEART* and other community coalitions:

...we do have a group of passionate people here that does look into food security. The same group of people, there's a little bit of overlap, look after, we have a poverty coalition, we also have an emergency fuel fund, we also have social activists as far as the environment and wind and solar energy. So, we do have a group of people in the community that are very socially conscious that have been working on food security. They'll come to the town council for different funding, they'll put in applications for funding for projects or land for local food production and stuff like that. (Catherine)

Robert provided an explanation on how the legalities of a balanced municipal budget differed from provincial and federal government and how this influenced the amount of money that was allocated to addressing the SDH in his municipality:

... you know municipalities are so much different than federal and provincial politics in the sense that we have to run a balanced budget. We're not allowed to run a deficit. We have to increase and improve our municipal services to a standard that our citizens are accustomed to and do both of those things and still try to keep our tax rate at a reasonable rate that people want to live here and want to move here. So, if our tax rates are out of sync with the rest of the province, it's harder to entice people to move here. People aren't moving here; our downtown starts to die then all of those determinants of health for other people they're not addressed. So, although we do have a big role, people don't always see the role and having a healthy community, both financially and for people to want to live here is just as important as addressing some of those other social issues. We can't address those unless we make sure we have this first. So that's the difference between municipal, I guess local government, and federal and provincial. If they want to address a certain issue and they can throw a lot of money into it, it doesn't matter if they go into a deficit. It does maybe in the next election but legally we have to have a balanced budget. (Robert)

Participants identified balancing a limited municipal budget and subsequently not allocating funding appropriately as identified as being potentially catastrophic to vulnerable populations:

If we do go into a deficit the following year, say we're \$20,000 in deficit, the following year first thing off the top of your line is comes off the budget so you have \$20,000 less for your budget for that next year. Council has to make a decision then; do we increase our tax rate? For every penny that we increase our tax rate we only raise \$30,000 so

that's not a lot of money. But for the average household that's one cent per hundred. Assessments in [name of town] are pretty high so that could be very devastating to a family that's just making it so that's all things that you have to consider (Catherine).

Catherine continued to explain that balancing a budget often meant that addressing SDH came second to *essential* municipal services:

When we talk about the determinants of health as well, it's important that we realize the municipality's role in that and never will we say well we can't do anything because that's not our role but we do have an obligation to make sure that, and I explained this to a group that came in just last week looking for funding, is if we start to put our tax dollars towards other things other than our essential municipal services then our municipal services are not attended to. Our tax rate goes up, our businesses might not thrive as well so our first priority is to make sure that we have a municipality that is in good financial order and that we're providing good municipal services. Once that is done then we can go out and start to look at other projects or see what direction we want to put the other funding in. (Catherine)

The municipal government officials were agreeable that the majority of their budgets went into improving or maintaining infrastructure “so improving our roads and access and sidewalks and stuff like that, making sure that our community has good drinking water, that our water treatment plant is up to standard and that our wastewater as well is good” (Briana).

One of the municipal government participants described the unique challenges of providing funding for work on addressing the SDH based on the geography of her municipality. Briana explained that in order to avoid an even wider unfair tax burden on residents that lived in town, versus outside of town borders, activities related to addressing the SDH had to be limited:

So, I would say that the town also faces some challenges for work [addressing social determinants of health] that are directly linked to that fact that we act as kind of a service centre for all of our surrounding, like rural communities, being that a lot of our recreational facilities, like the one that we are in right now, our pool, our community park, all of our facilities, all that we have to offer here in town, the tax burden falls on the shoulders of our citizens even though a lot of the facilities are used from our outside rural communities and there are citizens that aren't residents of the town. So, it kind of creates a little bit of catch twenty-two because we want to be able to provide all that we can for our citizens and outside citizens. But the challenge is that, you know there isn't really, equalization isn't there in terms of contributions from our neighbours. (Briana)

5.3.3.4 Societal trends in undergraduate nursing education. The PHNs perceived that the traditional biomedical and behavioural/lifestyle paradigm that values illness care over population-health promotion continues to dominate in nursing undergraduate programs. A limited focus on population-health issues, such as food insecurity in undergraduate nursing education was felt to have limited nurses' knowledge, skills, and attitudes required to work towards population-health and addressing SDH. The PHNs reported a clash between “newly graduated nurses' strong biomedical knowledge-base” (Becca) and shifting public health practice in NS to population-health and addressing the SDH. Michelle supported this sentiment by stating “that coming out of my nursing degree, I felt super ill-equipped to work at the population level”. Similarly, Jacqi stated:

The biomedical model still dominates in school and it is so obvious...When new grad nurses come, they just don't understand when we say, 'we need to focus on the root causes of the root causes of health.' They kind of stare at you bug-eyed...not sure where to start. (Jacqi)

Indeed, the vast majority of the PHNs stated that their community health nursing course had prepared them to work primarily at the individual family level. Brittany shared, that although she was exposed to theoretical knowledge about population-level strategies, such as addressing food insecurity, she expressed the need for a better balance between acute care and public health courses:

I think professors in the SON [School of Nursing] are quite knowledgeable about...the social determinants of health...and to some extent population strategies are definitely reviewed, but not anything too in-depth. I did do one course it did come up for sure. I think the concept of public health nursing is difficult to grasp because we focus so much on acute care in courses. (Brittany)

Interestingly, Jacqi witnessed instances where PHN clinical mentors encouraged students to receive experience in acute care settings before proceeding to a career in public health. She was

fearful that this may further engrain individual-task based knowledge versus population-health in nurses even before they begin their career:

And the faculty will say to students considering public health, they'll discourage it because they'll say you really should get some experience first in a hospital setting. So, they're even encouraging experience that is task focused before you go on to public health. (Jacqi)

Most of the students admitted they had very little practical experience with population-level strategies as well. Although JoAnne felt like she had an exceptional experience being exposed to the practical application of using a health equity lens during her public health rotation in nursing school, experiences remained at the individual level:

I was so so lucky...in my undergrad, I went to a school where it seemed all of the professors understood. Everything was framed from a health equity lens...so even things like sending new diabetics home. You don't just tell them what to do, you make sure they have access to the supplies they need, you know stuff like that...I don't think, my guess is, that most nurses aren't exposed to this way of thinking in school. (JoAnne)

5.3.4 Ambivalence about the PHN role. Participants indicated that the array of constraints (identified and presented throughout this theme) has created ambivalence about the PHN role both within and outside of the public health organization. PHNs shared their belief that because their role was becoming more ambivalent, other professions were “taking over” what were once traditional PHN roles in the community. Michelle explained, “a lot of the community piece has been taken away from me. They hired a nurse practitioner and a family practice nurse along that time and they took on some of the roles that I was doing.” Similarly, Jacqi stated:

I would do like the screening to get them into the program and then it's a visitor...that does like the weekly visits with them and runs a parenting program with them. That has been taken away from us. So aside from that like first couple visits that I would do to kind of get a bigger sense of what's happening with the family and decide whether the program would help them or not, I'm not necessarily, that program still doesn't keep me connected with them in a way that I understand what they're experiencing. We get like a log sheet back that like shows us what they've talked about. (Jacqi)

Becca expressed concerns that without imminent PHN role clarity, the public health nursing profession is at risk for extinction:

I fear that the way the public health nurse is going, the title of public health nurse will not exist in a few more years to come. They're replacing, like if I was to retire tomorrow my funding goes immediately back to Halifax. There'd be no plan for replacing me here. And if they did replace it might not be to this office and I don't think it's going to be a public health nurse. It might be a health educator, it might be a social worker kind of person. If we don't clarify a role for ourselves... I'm very concerned for the future of public health nursing. (Becca)

The constant insertion and removal of various mandated initiatives into PHN regular duties, such as home visiting, prenatal education classes, community-based food programs, vision screening, and immunization to name a few, was believed to have contributed to confusion about PHNs' scope of practice among both public health colleagues and the public. Moreover, Brittany explained that the back-and-forth of mandated duties, as well as the changing focus of practice on tasks versus population-health, was due to a lack of understanding of the PHNs' role within the public health organization:

So, when things are taken away that have been historically and traditionally part of public health nursing, they're taken away and then after a few years are given back, 'oh, you guys did a good job, actually', it's kind of like, 'really, now you want us to do it again?' ...it is part of the autonomy you know, like, from what is the respect given to public health nurses and how is it viewed, you know, like, by other professions as well as the public. Like, there's always this back-and-forth all the time. There's not...to me, there is not really a clear or consistent role. (Brittany)

The participants recognized that articulating a PHN role was imperative in promoting a full scope of practice, managing workload pressures, and defining their value within the broader health system. Jacqi shared:

I think a lot of us don't, a lot of us nurses I talk to feel that the role of the public health nurse is not valued. I don't think managers see us as a way into some of the community. I think they just don't understand what we do – what our potential to make change actually is. We need a way to communicate our role to let them know we are...we need time [to manage workload pressure]. (Jacqi)

In the community, a lack of role clarity in regards to PHNs role in upstream health-promotion activities, particularly the PHN role in poverty and food insecurity, made it difficult for the public to understand their role in addressing these issues. For example, Becca explained:

And as public health nurses, we'll look at that example and understand completely how important that was to that women...because it addressed one of the determinants of health, but from someone outside public health looking in, I don't think they would have understood that at all. They would have watched you talking to somebody about her finances and thought, you're a nurse, I don't get it. (Becca)

5.4 Resources to Advance Work to Address Food Insecurity in Public Health Nursing

In this section, PHNs' reflections on resources needed to advance work to address food insecurity in public nursing practice are presented. Moreover, PHNs articulated the structures and processes, within and outside of public health necessary to optimize the scope of PHN practice and engagement work to address in food insecurity. Overall, the PHNs described several supports related to the broader sociopolitical and public health system, as well as more specific to public health nursing practice that they felt would improve understanding of the PHNs independent role in collaborative partnerships to address food insecurity. Resources are categorized under the following sub-themes: (1) *Health Equity in all Resources*; (2) *Breaking Down the Silos*; and (3) *Indicators of Achievement and Celebrating Successes*.

5.4.1 Health equity in all resources. Standards, competencies, and protocols outlining public health practice in NS were seen as a factor that shaped the organizational culture and had the potential to advance PHNs' work in areas such as addressing food insecurity. Becca stated, "Access and equity to all of our programs is in our Standards and Protocols and is mandated, of course, with a priority on at-risk populations. Health equity is a term frequently used here." However, for most of the PHNs, the NS Public Health Protocols (2012a) and Role Profile (2015) were not considered to be user-friendly and impractical for use on a daily basis:

I think in principle the public health protocols would support engaging in food insecurity. But on the ground in the day-to-day work I don't know that, you know, I use them. It would be nice if they were practical for us to use. (JoAnne)

The development of health equity impact assessment tools was identified as a method for PHNs to be able to use the protocols practically in the creation and delivery of more equitable programs and services. Cara proclaimed, “We need a health impact assessment for health inequity...if you can believe it, we don't have a health impact assessment for health inequity in public health yet.” Jacqi provided an example of how a health equity impact assessment would be beneficial to public health practice:

I know we've talked about in the past, planning programs with the health equity lens. So, you know when we're developing tools looking through a health equity impact assessment tool to say, 'you know are we causing more disparities by running the programs the way that we are right now' and I think though that sometimes what happens when you start looking at things like that is then things just, we panic and we say we have to stop doing this all together. I think that's what happened with prenatal classes like we were like OK we're not getting who we want to get in prenatal classes so we're just not going to do them at all, instead of just trying to figure out how to get those most vulnerable involved in programming. (Jacqi)

Integrating key equity concepts into strategic plans and public health unit vision statements was also identified as critical to integrating them into daily practice. New senior management leaders embedded health equity in the overall direction of the public health units in a deliberate and purposeful manner. Various forms included health equity in strategic priorities and mission statements. PHNs were hopeful that new strong leadership would help establish an independent role for PHNs in addressing food insecurity, and has empowered the PHNs to determine a nuanced approach to their work in this regard:

We never had a nurse as a manager before so this, we're looking forward to that. So, like I said if you come back in a year's time it might be a much different story on how we [PHNs] are addressing food insecurity. We know her and are excited because she not only does she understand the social determinants of health, she prioritizes them and will have intimate knowledge of how us frontline PHNs can work [to address food insecurity]. It's prime time we outline our role in this. (Becca)

Senior management leaders also considered work on the SDH and health equity a natural part of public health, as demonstrated by this participant:

We recognize that the foundation that everything in public health is related to the social determinants of health...within an organization having leadership understand how important social determinants are, are really important to move it forward and make it more integrated in how all your programs are delivered. (Linda)

The integration of new health equity consultant positions into the NSHA was implemented based on senior management leaders' commitment to addressing health equity issues. Interestingly, frontline staff were unsure of how health equity consultants would support their practice and worse still, feared they may even act as a barrier to healthy equity endeavours due to their managerial status. Prior to the implementation of health equity consultants, the NSHA had established two frontline health equity leadership positions within the Guysborough, Antigonish, Strait (former GASHA) area in 2014. The mandates of these health equity leadership positions were to connect across sectors on issues around health equity and provide public health practitioners with tools and approaches they could use to promote health equity in their respective job descriptions (NCCDH, 2018). In addition to an acknowledged role of leadership, PHNs attributed having these previous frontline health equity experts in public health to the current success due to their ability to work:

Any work that has really been driven in the last number of years has been when we've had these knowledge heavy people in positions so we have positions that work on health equity specifically, things have started to move. There has been a special focus on food insecurity in the area because of their knowledge backgrounds and their passion and ability to get us [all public health staff] motivated to do something about it. (Jacqi)

Similarly, JoAnne recounted that the health equity experts were instrumental to bring strategies to address food insecurity up to the system redesign stage:

Without the health equity experts' support, we would never have moved to this level that we were able to here. It was instrumental because they always held that policy

component, that research component, that best practice piece, to try to connect the work we were doing with what's happening. They really get it, that if we don't start changing policy and start influencing governments so that they are making a difference. (JoAnne)

Despite many concerns about the applicability of the new health equity consultant and how they might support PHN practice, Becca was hopeful that once the consultant was established they would be able to support her work to her full-scope of PHN practice by ensuring health equity has been incorporated into program planning, implementation, and evaluation as indicated in the NS Public Health Equity Protocol (2012a):

I hope the consultants can help us move forward to practice to our full scope...we need the support to work to full scope...full scope promotes health equity. I hope they help us [PHNs] apply a healthy equity lens to our work. I think it might be caught up a little bit in the politics of like a non-unionized position being put into a unionized environment for a little bit but once they get in place I can see them really starting to shift things. (Becca)

The PHNs raised caution that in order for the health equity consultant to be supportive for the continued advancement of food security and health equity in Guysborough, Antigonish, Strait Richmond area, the consultants must be easily accessible to frontline staff. The PHNs called for a strategic approach for effectively communicating consultant information, advice, and guidance to ensure health equity is incorporated into program planning, implementation, and evaluation. Although participants did not identify specific methods, the need for effective channels of communication, or “infrastructure,” was identified by a number of PHNs who felt they needed to run new program ideas by health equity experts before implementation:

Like having an expert in health equity right on site is wonderful, but even weekly would be supportive. At this stage, we need support. I might have an idea of something to do but I need someone to run the idea by before it goes anywhere. Health equity is supposed to be cross-cutting – according to the protocols - we need to have the proper channels for support and feedback [from health equity consultants]. I call it infrastructure. (Becca)

5.4.2 Breaking down the silos. To practice to their full scope, and engage in addressing food insecurity and health inequity, PHNs emphasized the need to establish professional

relationships and partnerships with clients (whether individual or community), across professions (within and outside of the healthcare sector), civil society organizations, and local government:

Well, I think the lesson that we've learned is that everyone has a role - that these big issues can't be solved by one discipline or one sector or without civil society. Yeah, I think that's the lesson that we learned. That if any of us are trying to solve the problem independently, we're not going to get anywhere! (Becca)

Both public health and municipal government participants were adamant about civil society participation. Michelle suggested a food policy council as an example of civil society engagement in regards to food insecurity specifically:

You always need strong civil society representation...like the real people, the grassroots people...that addresses issues of food policy and that looks at all policy proposals from the provincial government through a lens of food security. Whether you call this a food policy council or whatever, it's just got to have strong civil society representation. (Michelle)

Partnerships with the CHBs were also important to address food insecurity through financial support:

The community health board has supported this project in food insecurity. It was through grants from the community health board, health promoting schools, etc. that we were able to move the food security piece and talk to other schools. So that support has been instrumental. It's always about building those relationships and partnerships. (JoAnne)

JoAnne explored the idea of what 'partnership' meant:

We [Public Health] not only like to partner but provide support...to partner you just go to meetings, and maybe share your information, and just be happy that someone is out there doing the work. Whereas I think you also need to support, supporting it is actually contributing more concretely and providing resources. (JoAnne)

In this regard, PHNs believed that they should be involved with CHBs directly in order to support community members who have little experience with decision-making processes. PHNs could assist with gathering information, assessing alternative resolutions using relevant information and research:

With the restructuring, the idea is that now the community health boards will have an expanded role within the new health authority, have more say in decision making. My [friend] is on the community health board and that freaks him right out because he just, they're not experts in any, like they're volunteers and community members and so they're already being asked a lot. They're not necessarily collectors of information though like I can't, I wouldn't say that they even have a great understanding collectively of what's happening in their community. They're being asked to make big decisions but I think sometimes with the community health boards you have people with vested interests too that kind of steer the conversation. (Jacqi)

Participants identified other stakeholders outside of the healthcare sector they perceived to be necessary for collaboration to create strategies for addressing food insecurity. Identifying “community champions for food security” (JoAnne) and “all contributors in a local food system including growers and producers, citizen groups, community agencies, businesses and chefs, and academic researchers” (Daniel) were a few of the stakeholders identified. Brittany provided an example of how such collaboration has contributed to the success of a community garden in her town:

To keep the community garden going, there was a lot of collaboration happening. So, us with Primary Health Care, the Education Centre, the Lions Club, the villa, the daycare. We had invited the local 4-H club. There's a group called the Adult Drop-in Center, they're a mental health support group for each other, just a once a week drop in center, they participated as well. oh, Department of Agriculture was really supportive of it too. More in education and stuff, but they put on quite a few classes or workshops for us through the winter and then they definitely supported us through the summer. They stopped by at different times and said, 'you know, this is what your garden looks like it needs', like the meat and the gravy of it. (Brittany)

Lastly, PHNs discussed the importance of partnering and building relationships with local municipal councillors. Aforementioned, JoAnne attributed her engagement in food sustainability initiatives, and the success of a school garden she supported students with, on her close working relationship with local municipal councillors. Determining mutual agendas between municipal government and public health emerged as a finding. Jessica stated, “we need to capitalize on the differences in our agendas”. A municipal councillor echoed this statement:

All the people at the table have different agendas. It's a matter of can we all agree on a common language and a common vision, then we can move the whole agenda forward. It doesn't matter what the issue is. Food security is no different than any other broad, complex topic area. (Robert)

When asked where overlap in agendas in relation to food insecurity occurred, the participants were unsure. Jessica offered perceived areas of overlap, including “population health, adequate social services, food safety, local economies, for instance”. Echoing alignment of agendas, the concept of positioning food security to meet other agendas was brought forward. Jessica stated, “if you want to get food security into government, you have to figure out what they have control over that impacts it and find a champion who can bring the action forward”. Furthermore, Jacqi stated, “understanding that the government may not be ready to look at income supports, but maybe they are ready to look at food supports. So just really understanding what is possible and not possible at a particular time.”

Strategies to build partnerships were also discussed. Reaching out and maintaining a physical presence is essential for building relationships among many of the PHNs and with communities. Brittany articulated:

We also reached out to [name], which is a local organization that supports at-risk youth because a lot of new, young moms are going there quite a lot. So, we worked with them now and we have a partnership with them. So, we collaborated with them to deliver cooking classes and workshops on budgeting once a week. (Brittany)

Investing time was described as essential to developing meaningful relationships that could lead to opportunities for creating programs to address food insecurity as explained by Becca:

It has taken at least two years, but I have shown up to many of the community events around community gardening and buying local and I have built trust within the community. Now I am requested to be involved in community food security initiatives and I hope that I can begin to advocate for sustainable changes. (Becca)

Increasing communication and breaking down the silos between PHNs and other disciplines within public health units were cited as leading to effective collaboration related to effectively addressing food insecurity:

Well, we need better communication in public health. Like, for each of us to be going along and doing things in our own little silo is not effective. We don't work with the other disciplines in our public health department. I mean if I have a question about nutrition, I'll ask a nutritionist, but the lack of communication severely limits our ability to participate in community food security activities - which the nutritionists are very involved in. (Becca)

However, participants were clear that a formalized structure and process was needed to effectively break down the silos for effective partnerships and collaboration:

We really have to have a pretty formal structure and process in place to make sure we are effectively collaborating. Otherwise, it depends on goodwill and accidental run-ins and whatever. And it never becomes part of your work. You'll work in your silo. (Jessica)

Another PHNs echoed the importance of examining how to most effectively work together:

Even though we could say it would be better if people communicated more with each other, we need to look at the processes of the, we can't just say 'we should talk more to one another'. We have to look at how effectively do this. (Michelle)

Working committees, such as *HEART* provided a centralized position for food insecurity and health inequity priorities for the public health staff in the Antigonish, Guysborough, and Port Hawkesbury public health units. Continued involvement in *HEART* was considered a priority for PHNs involvement in upstream action to address food insecurity:

Being involved on the HEART team makes me feel like I have the capacity to be involved in upstream interventions to address food insecurity – like I actually might help address food insecurity. (Becca)

PHNs felt that increasing communication between public health units across the province would provide further opportunities to share success stories and resources to support efforts to address food insecurity:

We need to be able to share resources and success stories with public health in other districts. We don't hear anything about other districts and how they are working even though I know that [name] is extremely active. I would love to know how they do it!
(Michelle)

The NSHA restructuring was perceived to provide opportunities for increased provincial-wide communication and collaboration:

I think we need to have the opportunity to talk together collectively. Now that we're one Nova Scotia Health Authority I would say that an opportunity, especially for public health nurses perhaps who are working in schools, is for us to come together and to share what we've been up to, talk about what we're doing, share opportunities, you know because we have not had that opportunity since probably 2011 was the last time provincially we ever got together. (JoAnne)

5.4.3 Indicators of achievement and celebrating successes. As evidenced thus far, participants agree that addressing food insecurity must be inter-sectoral; however, defining roles in these partnerships was not clear, and PHNs suffered from lack of clarity in their role in engaging in addressing food insecurity. One of the PHNs suggested that a way forward would be acknowledging the big picture of community food security and subsequently defining and delineating the most appropriate role that PHNs could focus on in collaborative efforts to achieve community food security:

Yea, we need for all of these different sectors to be involved with addressing food insecurity. And I think the trick for when you're doing it within public health is you focus on what can PHNs do most, what can the nutritionists do most. So rather than me trying to focus all of my time to change agriculture, I could focus on some of the things closer to home. It's all about being a bit more strategic into what is my role knowing that there are others and they have the other roles. They area complementary role, but they shouldn't be the same. (Jacqi)

Without an explicit purpose and concrete indicators of achievement, the PHNs believed it would be difficult to describe their role to others, who may want to create effective relationships and partnerships with them. PHNs believed that more research was necessary to accurately document the purpose and depth of their work. JoAnne stated:

We need more research on the public health nursing role, like the work you're doing for public health nurses to become more involved in addressing food insecurity. So, someone that's going to connect this piece with policy and with the layers from an academia point of view to someone who's working in the field so that I can go and pull this out and say here you go, here's the evidence to support why the work that I'm doing is valued and important. And I think as you pointed out there's very little in the literature that talks about that. So, unless we have that too as a foundation to say OK, it's kind of like relational work that I do with youth health, I'm not primary health care focused, I'm public health focused, upstream approach and I'm trying to make an impact at that level, because if you're constantly putting out a fire, with somebody dealing with situational stuff, you never get to making changes. So that's where I see the big piece of it. (JoAnne)

The PHNs spoke about the significance of celebrating successes. The PHNs believed that formal recognition of successes would create opportunity for knowledge translation because it would create a platform for other organizations to learn and build on strengths and achievements.

JoAnne provided an example:

See and that's the thing too, we celebrate it. We invite the municipal council to come, the warden, the school board members, the superintendent of schools, so that it can be a real celebration and say this is so important. The students do a presentation. There's a slide show capturing from planting to cooking and I think it's, that's really important. And you know we try to get it in the local papers and different things and we've been nominated for lots of different awards for the work they're doing and so I think that's really important. You know, you need to acknowledge and celebrate the work they do. (JoAnne)

5.5 Summary

Overall, findings indicate that PHNs have been engaged, albeit at various levels of capacity, in a wide range of interventions that support their clients living with food insecurity and that aim to address the root causes of food insecurity. Integrating all levels of interventions across the continuum of community food security strategies to address food insecurity is consistent with public health nursing practice. Regardless of PHNs' intrinsic understanding of the link between poverty and food insecurity and being faced with clients suffering from food insecurity in their day-to-day practice, the majority of PHNs' strategies reflected only short-term, or emergency action, such as the provision of personal food stored in offices, or referrals to food

banks and other community resources and programs in crisis situations. In spite of the central role PHNs viewed for themselves in the development and implementation of community-based food initiatives and in system redesign action for addressing food insecurity, such as awareness raising, engagement in kinds of strategies that start to address root causes of food insecurity was sporadic and limited.

Consistent with critical realism and case study research, particular attention to context was made. The use of a critical realist approach, unique to this field of nursing research, allowed for the weaving together of various sources of data to uncover the dynamic interplay of the less tacit forms of influence, including prevailing ideologies, culture, values, and relations of powers of management and municipal government, that influenced the endeavours of PHNs' acting on behalf of public health organizations. The analysis of data brings to the fore the complex web — of constraints — some at the organizational level and others beyond public health organizations — that undermine PHNs' engagement in work to address food insecurity across the entire range of strategies. Participants also revealed an existing range of approaches, as well as activities that offer opportunities for an enhanced role and also for advancing community food security in NS. This research allowed me to identify strategic opportunities that build on existing enablers while paying attention to the broader relations of force impacting PHNs' engagement.

Chapter Six : Discussion and Implications

This final chapter provides a discussion of findings from this critical realist case study that aimed to answer the question “how are PHNs engaged in work to address food insecurity”? While in the findings chapter I presented the themes of participants’ stories and document review that address this question, in this discussion chapter I situate the findings of this case study research within the existing literature. Three main themes have been identified and are used to organize the discussion chapter. These are: (1) *Capitalizing on a “Clash of Cultures”*; (2) *Working Up-stream to Address Food Insecurity*; and (3) *Towards a Professional PHN Practice Model*. This chapter serves as a platform to compare and contrast the findings of this study with previous works and to highlight the major contribution of this study to the field of food insecurity and public health nursing.

I begin with a discussion of food insecurity as an intractable policy problem that requires a diverse range of interventions to address the structural and intermediary determinants of the problem (outlined in Table 1.1). I propose that capitalizing on the diverse ways food insecurity and/or food security is framed among diverse stakeholders is necessary for the development of effective long-term solutions. I present a conceptual framework for community food security action, integrating municipal-level food sustainability approaches with anti-poverty initiatives promoted by public health. I provide support for current and potential PHN initiatives to address food insecurity that extend beyond the individual or household level; especially in terms of enhancing current PHN practice to focus more on upstream solutions. The underlying influences and tensions that need to be surmounted for an enhanced role in engaging in work to address food insecurity are unpacked, followed by a discussion on the organizational structures that must be established to support innovative nursing practice and to respect nursing knowledge and

skills. I conclude this chapter with an outline of implications for the future for public health leaders, PHNs, policymakers, funders, educators, and researchers, followed by key take-home messages from this study.

6.1 Capitalizing on a “Clash of Cultures” for Community Food Security in NS

This study contributes to the limited literature that considers food insecurity in light of an intractable policy problem related to conflicting framing and interests among parties whose values, views, and representations of interest make the problem of food insecurity a wicked problem (McIntyre, Patterson, & Mah, 2018). Many of the most intractable public health issues PHNs are confronted with today, including tackling food insecurity, are considered to be *wicked problems*, not with moral wickedness, but with a high level of intricacy (Bremault-Phillips et al., 2015; Falk-Rafael & Betker, 2012; Raphael, 2008; Rittel & Weber, 1973). Wicked problems are characterized as “persistent, stubborn, and deep-seated” (Hunter, 2009, p. 202) that are socially complex, continually evolving, and have many causal levels (Morrison, 2013; Rittel & Weber, 1973). A conflict on how the policy problem is framed is generally at the heart of the impasse. According to McIntyre and colleagues (2018), differing meanings created through social construction of policy problems renders the problem of food insecurity intractable; thereby perpetuating inaction.

At the surface, an ongoing tension between public health framing food insecurity broadly or exclusively through an anti-poverty lens and municipal government’s focus on food system sustainability seems to be occurring in the Eastern Zone of NS. Historically, a “clash of cultures” between the government sector of Public Health and civil society organizations has hindered both food and social policy development at both the Canadian (Andrée et al., 2016; Seed et al, 2013) and international levels (Chitiga-Mabugu et al., 2013; FAO, 2017). Varying

conceptualizations of food insecurity among stakeholders have contributed to competing agendas; for instance, individual versus community level conceptualizations creates varied perceptions of the problem and ways to address it (Wegener et al., 2012). Across Canada, there is generally a lack of understanding and consensus in relation to food insecurity and what a food security policy would actually look like (Andrée et al., 2016; MacRae, 1999; 2011; Wegener et al., 2012). However, I argue through this thesis that these perspectives are not mutually exclusive and are both central to achieving food security.

Consistent with Slater (2007) and Voices for Community Food Security (2017), this research supports community food security as a holistic approach to address food insecurity, bringing together themes of anti-hunger and sustainable agriculture, uniting availability and production with access and consumption. Community food security views the food system through a community lens, focusing on community engagement and self-reliance (Hamm & Bellows, 2003). Framing food insecurity from a systems perspective implicates that initiatives occur at a societal level, and recognizes food insecurity as an environmental, social justice, and chronic disease prevention issue which is consistent with the NS DHW broad goals for food security (NS DHW, 2013). Increased environmental, social, and economic sustainability within the food system is a prerequisite for achieving community food security (Andrée et al., 2016). Moreover, given the structural and intermediary determinants of food insecurity (Table 1.1), comprehensive strategies at all levels are needed to realize community food security (Kalina, 2001).

While food security impacts human health, impacts are also beyond human health. Further, as causes do not lie within the control of the health system, this suggests that while public health has a role in food security, it is not the domain of public health. Food security

requires a multi-sectoral, multi-level and multi-dimensional approach. Comparing ideological constraints and enablers allowed the identification of some strategic opportunities for community food security. Moreover, this research supports that a convergence of forces offers the best chances for the success of community food security initiatives (FAO, 2017). Convergence requires a supportive material base, an organizational structure of appropriate policies and programs, and strong ideological support among a range of actors who see these initiatives as fitting within their interests (Andrée et al., 2016; McIntyre et al., 2018). Figure 6.1 presents a conceptual framework for community food security action, contrasting municipal-level food sustainability approaches with anti-poverty initiatives promoted by public health. This framework illustrates how these various approaches to community food security action could affect positive change in key structural and intermediary determinants of food insecurity and health. This shows that collaborative efforts for community food security at the local level have the greatest potential to generate positive impacts for those facing food insecurity. Capitalizing on these opportunities has the potential to support community food security. In NS, there is an emerging opportunity for moving forward on policies related to community food security within public health (Andrée et al., 2016; NS DHW, 2005; 2012). A number of factors have come together, creating a climate more amenable to expanding the role of the NSHA and local governments in building supportive food environments (Andrée et al., 2016). These factors include the development of a strong public health *Healthy Communities Protocol* in 2012, and the appointment of a Medical Officer of Health in 2016 who conveys strong messages about the ways in which various levels of government can work together with researchers and civil society organizations to improve community food security (Andrée et al., 2016).

A strength of community food security is that it brings together a wide range of disciplines, professions, and organizations, to provide an understanding of and to address problems in the food system from a variety of perspectives (Voices for Food Security in Nova Scotia, 2017). However, this diversity was also seen to be problematic in building a unified movement, in terms of action, conceptualization, and policy analysis and development. This is consistent with a community food security action research project involving stakeholders from multiple sectors of the food system in NS that revealed the complexity of interests brought together under the community food security umbrella, as well as the effects of differing degrees of power associated with the various food system interests (Andrée et al., 2016). Another Canadian study indicated that low-income community members' interests are often downplayed or ignored (Seed et al., 2013). Opportunities for increasing collaboration between diverse ranges of stakeholders in ways that will advance community food security are possible. For example, the strengthened collaboration, and networking of research communities, such as ACT for CFS in NS, has increased awareness of agricultural, fisheries, poverty, and health issues, and bridged gaps between diverse groups working towards mutually beneficial goals (Andrée et al., 2016). Encouraging diversity also needs to include the active involvement of civil society or those whose lives are affected by the issue (Ramji & Etowa, 2018). Thus, civil society in regards to community food insecurity should include local farmers and fishers in anti-poverty groups, as well as inclusion of women, seniors, low-income and minority groups presents a unique opportunity to learn from the resiliency and strength of these groups, for example the strong respect for the land (including water) and social and community ties of Mi'kmaq First Nations and other Indigenous Peoples in Canada (ACT for CFS, 2014; Williams et al., 2012a, 2012b). A study in South Africa reported that enhancing civil society's capacity to engage with food

security policy, definitions, and measurement of food insecurity would ensure that civil society engage at the same levels with government and other stakeholders (Chitiga-Mabugu et al., 2013).

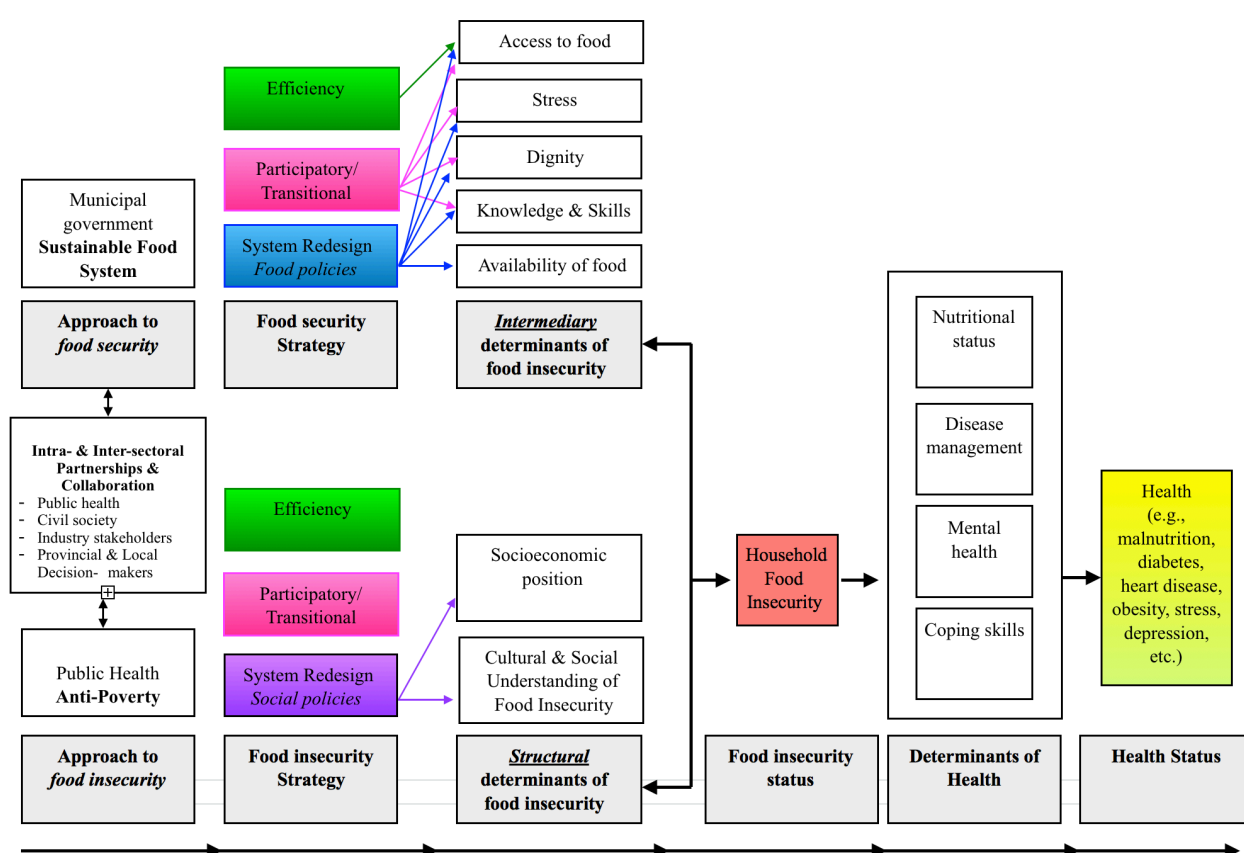


Figure 6.1: Framework for action: sustainable food system and anti-poverty approaches.

6.2 Working Upstream to Address Food Insecurity

Upstream work refers to approaches to address an issue that seeks to reform the fundamental social and economic structures that distribute wealth, power, opportunities, and decision making (NCCDH, 2014b). Upstream approaches are required for long-term elimination of food insecurity through action on the intermediary and structural determinants of food insecurity (Collins et al., 2014; Kalina, 2001; Tarasuk et al., 2015). The study findings yield important and novel insights for the PHN role in addressing food insecurity through engagement in initiatives beyond the individual or household level; across the *Continuum of Community*

Food Security Strategies (Food Security Protects of Nova Scotia Nutrition Council and Atlantic Health Promotion Research Centre, 2005; Kalina, 2001; McCullum et al., 2005; Williams et al., 2012a), especially in terms of enhancing current PHN practice to focus more on upstream solutions. PHNs and other leaders and practitioners in contemporary public health practice need to develop strategic partnerships to develop and implement policies to effectively address food insecurity. The tensions described in the findings, such as the ambivalence about the PHN role, the lack of credibility of the PHN in the community, an organizational culture that supports a limited scope of practice, and a predominantly conservative, victim-blaming political ideology must be addressed to deconstruct the dominant ideology subsequent to PHNs subversion (de Souza, 2013). This provides insight into the importance of public health manager leadership to help abate these tensions, which ultimately may lead to the enhancement of the system health equity priority through collaborative community food security strategies. In this section, I provide support for current and potential PHN initiatives to address food insecurity, the underlying influences and tensions that need to be surmounted for an enhanced role in engaging in work to address food insecurity, and the organizational structures that must be established to support innovative nursing practice and to respect nursing knowledge and skills. This section is categorized under the following four sub-themes: (1) *A Wicked Problem Requiring Public Health Nursing Intervention*; (2) *Unpacking the Knowledge-Practice Divide*; (3) *Working Within the Space of Upstream and Downstream*; and (4) *Increasing the Visibility of PHNs*.

6.2.1 A wicked problem requiring public health nursing intervention. Researchers have acknowledged that wicked problems require complex solutions (Hunter, 2009), which cannot be resolved through traditional linear approaches (Blackman et al., 2006; Bremault-Phillips et al., 2015; Morrison, 2013). To effectively manage the burden of food insecurity as a

wicked problem, PHNs require interventions that support their clients and that are able to address the modifiable political, social, and economic mechanisms that generate, configure and maintain these contemporary complex issues (Burke & Albert, 2014). Table 6.1 provides an overview of current and potential PHN interventions in light of PHN practice definitions adapted from the *Public Health Standards of Practice* (CHNC, 2011) and *PHN Role Profile* (CPHA, 2011; NSHA, 2015), which supports PHNs' engagement in a wide range of interventions to tackle food insecurity. These interventions are discussed further in this section.

Table 6.1: *PHN Practice Definitions for Engagement in Work to Address Food Insecurity and Current/Potential PHN Interventions*

Community Food Security	PHN Practice Definition	Current PHN Interventions/Roles	Potential PHN Interventions/Roles
Efficiency strategies (individual-focused)	PHN clinical practice is broad. It includes health promotion, disease and injury prevention, health protection, health assessment, as well as emergency response and preparedness. Practice is responsive to client needs and utilizes case management approach to coordinate care and promote equitable access to services and resources for clients identified at-risk for food insecurity.	<ul style="list-style-type: none"> • Case management. • Targeted home visiting. • Screening, assessing. • Alleviating day-to-day effects of food insecurity. • One-on-one counselling, education. • Referring to community programs for immediate relief, including food banks, family resource centres, food hubs, etc. 	<ul style="list-style-type: none"> • Ensuring programs are reaching whom they are targeting and that clients are actually benefiting from current programs.

Community Food Security	PHN Practice Definition	Current PHN Interventions/Roles	Potential PHN Interventions/Roles
Participatory/ Transitional strategies (community-focused)	PHNs utilize knowledge, assessment, and a strength-based approach to empower and build capacity of the community to meet its needs.	<ul style="list-style-type: none"> • Providing youth mentorship. Youth empowerment, and capacity-building through participation in school gardens. • Collaborating, partnering, advocating for support in terms of infrastructure and funding. 	<ul style="list-style-type: none"> • Capacity-building through participation in community kitchens. • Participation in collaborative research.
System redesign strategies (Government & Society focused)	PHNs identify opportunities for policy and program development, participating in the development of policies with measurable outcomes based on evidence. PHNs influence policy at multiple levels, including schools, community, and across sectors that affect community food security.	<ul style="list-style-type: none"> • Collaborating, participation in <i>HEART</i>. • Supporting youth advocacy endeavours for school garden sustainability & food policy. 	<ul style="list-style-type: none"> • Lead monitoring role collecting & presenting stories to raise awareness and inform decision-makers about the links between poverty, food insecurity, and health, and the effects of damaging government policy. • Assist CHBs with gathering information, assessing alternative resolutions using information and research.

PHNs were identified as essential to providing support at the individual level and have engaged in working with individuals and families to alleviate the day-to-day effects of food insecurity, such as providing individuals with food stored in offices for emergency situations and providing one-on-one education to clients identified as “at-risk”, particularly for mothers in the enhanced home visiting program. PHNs were identified as integral to connecting and assisting clients with access to food banks and other community charitable services and resources, working in partnership with families for advocating their needs on an individual basis where appropriate. PHNs identified that their clients living in poverty had trouble accessing services due to financial and geographical challenges; moreover, they were often unaware of services available to them. Thus, to alleviate and prevent the effects of food insecurity PHNs must continue to assist individuals and families to secure appropriate services and supports (Cohen & MacKay, 2010; Reutter & Kushner, 2010; Reutter et al. 2009), including food banks and other community charitable services. This role is consistent with the concept of social justice outlined by the CNA (2010) and supports NS’s commitment for community food security (NS DHW, 2013). Community food security approaches consider whether and how households have access to enough healthy food as well as how that food is made, harvested, processed, distributed, and accessed (Hamm & Bellows, 2003). Household food insecurity is an essential part of community food security because ensuring everyone can access healthy and affordable food goes hand in hand with building healthy, just and sustainable food systems (FAO, 2017; Voices for Food Security in Nova Scotia, 2017).

PHNs in this study identified efficiency strategies as important for emergency situations for their clients and believed that charitable programs to access food, particularly food banks, provided individuals and families with food in emergency situations. The findings that PHNs

played a key role in referring clients to food banks or other community supports aimed at addressing issues in the short-term is consistent with unpublished research in NS, which found that family resource centres are often called upon by PHNs and other public health practitioners to address clients' immediate food needs among clients living in poverty (Frank, 2015; Shaw, 2014; Waddington, 2016). Although there is limited research on where PHNs and other healthcare professionals in Canada refer clients for emergency food, the Canadian Medical Association (CMA; 2013) has indicated that referring individuals experiencing food insecurity to charitable food programs was necessary for frontline healthcare providers, supporting findings in the United States (Larsson & Kuster, 2013), this research, and other recent unpublished studies in NS, that referring clients to food banks and other community supports is common practice among PHNs (Shaw, 2014; Waddington, 2016).

The findings that PHNs referred to food banks as “Band-Aids”, found assisting clients to access to food as challenging, described emergency support as “piece-meal”, and resorted to providing individuals with food stored in offices for emergency situations, supports the plethora of global research that shows that food banks are ineffective and do not reduce the effects of food insecurity at the household level (Hamelin et al., 2008; Larsson & Kuster, 2013; Loopstra & Tarasuk, 2012; Loopstra & Tarasuk, 2013a; Tarasuk et al., 2014a; Williams et al., 2012b). Furthermore, health care providers have little chance of altering patients' circumstances through referrals to these charitable programs (Tarasuk et al., 2015). Interestingly, PHNs struggle with providing support and advocating for their clients facing food insecurity highlights a clear gap between the limited support available to clients facing food insecurity through public health services, and improved food security rates as a named priority for public health (Kirk, Sim, Hemmens, Price, 2012). Further, the standardization of support services across the province

(NSHA, 2016) likely due to neoliberal ideology to contribute to funding efficiencies in the public health system (Varcoe, Pauly, Webster, & Storch, 2012), neglects to acknowledge the unique needs of people in the lowest socioeconomic group, particularly those living in rural areas who are most at risk of health inequities (Janzen et al., 2015; Lavergne & Kephart, 2012; Pampalon, Hamel, & Gamache, 2010). As evidenced by this research and similar studies in NS (Frank, 2015; Waddington, 2016; Williams et al., 2012b), people experiencing food insecurity would benefit from more accessible community-based support in their communities. These findings indicate that there is a need for both individual and population-based approaches to address the complex needs of clients facing food insecurity. Development of an individual's skills can help them make informed decisions, while population approaches center around improving the health of communities. PHNs have an important role to play in addressing food insecurity through individual and population approaches; however, these findings buttress PHNs' call for an enhanced role in more comprehensive and upstream approaches required for long-term elimination of food insecurity through action on the intermediary and structural determinants of food insecurity (Collins et al., 2014; Kalina, 2001; Tarasuk et al., 2015).

The PHNs' call for more engagement in community food-based initiatives and sociopolitical efforts to effectively address the determinants of food insecurity is consistent with the roles and activities outlined in the *NS Public Health Standards and PHN Role Profile* (NSHA, 2015). Community gardens and community kitchens have been identified as ways PHNs can alleviate the effects of poverty on low-income clients (Cohen & Reutter, 2007). This study also identified these strategies as ways of providing education to foster personal empowerment. Furthermore, these strategies have been identified as self-help strategies to promote empowerment (Johnson, Williams, & Gillis, 2015). Community food-based initiatives have also

been identified as a valuable way to provide food-related social support and community connections, which may lead to information sharing, and the infrastructure and community assets necessary to further enable sharing and exchanging of food (ACT for CFS, 2014).

The local family resource center was a particularly important community-based food initiative for clients in the GASHA region. Historically, family resource centres have been compared to charitable food assistance as fostering dependence and neglecting to address root causes of food insecurity (Tarasuk & Eakin, 2005). However, PHNs in this study support a recent unpublished study in the GASHA area that discovered people attending programs at the family resource center were not only provided with short-term food assistance, but also programming that supported capacity-building around sustainable action to address food insecurity through enhancing understanding of the social and political circumstances shaping their struggles (Waddington, 2016; Williams, McIntyre, & Granville, 2010). Increasing awareness of the SDH among key stakeholders, including health providers, decision-makers, and the public to foster collective action is the first step to addressing health inequities (Reutter & Kushner, 2010; Sparks, 2009), as evidenced by NS women's participation in participatory food costing, who described a greater ability to assess and understand the root causes of food insecurity and appropriate policy solutions, using a holistic perspective (Johnson et al., 2015; Williams, 2014). According to Shaw (2014), family resource centres may actually fill an important gap by engaging those with firsthand experience of poverty in partnerships and activities aimed at addressing the inequities they experience in their everyday lives with a collaborative group of healthcare professionals and community organizations. Thus, findings from this study support PHNs' ongoing collaboration with family resource centres that may enhance the roles of them and their clients in upstream action through awareness raising.

Findings from this study extend the literature by providing support for a PHN role in school gardens, which also facilitates a role in activities that promote food system sustainability activities. Carlsson and colleagues (2016) suggest that PHNs, particularly those working in a leadership position in school youth health centres, have the necessary project management and entrepreneurial skills to help establish the necessary financial and human infrastructure for the sustainability of school gardens. These skills included conducting needs assessments, identifying sources of funding and assisting with grant writing, identifying and coordinating school garden project teams and sponsors, and evaluating school garden programs (Carlsson et al., 2016).

The example provided in this study of a PHN's involvement in a school garden project provides a rich example of how PHNs can help provide a platform for youth's voices and contribute to engaging and mobilizing youth in action for community food security. The finding that PHNs promoted a youth's voice at decision-making tables is supported by a body of literature that suggests channeling the considerable skills and energy of youth leads to strengthened communities (Ballard & Syme, 2016; Harper et al., 2017; Lerner, Johnson, Wang, Ferris, & Hershberg, 2015). Recognizing youth groups as key players and involving youth in a community's decision-making processes is about more than engaging young people for the sake of inclusivity, but recognizing youth are assets to communities with developing skills and ideas that can contribute to community life with appropriate mentorship from adults (Ballard & Syme, 2016). The mentorship provided by the PHN in this study enabled students to form horizontal partnerships with other youth across school districts as well as vertical partnerships with local political leaders. Together, they successfully changed policy that directly improved the well-being of GASHA youth residents and families by stimulating greater local food production and

encouraging the consumption of healthy, locally grown food. These findings support the broader goals of *Nourish Nova Scotia* (2018).

At the health system level, PHNs acknowledged they have a unique opportunity to effectively address food insecurity through awareness raising, acknowledging they were one of the only professions that had direct access to people's homes and, therefore, should have more of a role in upstream activities based on this perception. The ICN (2008) reiterates that nurses can make a major contribution in promoting and shaping effective health policy because they closely interact with clients, gaining an appreciation of the health needs of the population and factors that influence health. Monitoring strategies such as collecting and presenting stories about the impact of policies on people's lives can also be used to raise awareness of inequities (Cohen & Reutter, 2007). The finding that several participants spoke about the value of sharing PHNs' stories to help educate the broader public and local governments about food insecurity and the associated harmful effects, is similar to research that states PHNs have the capacity to assume a lead monitoring role due to the historical legacy of trust the nursing profession has with clients (Cohen & Ruetter, 2007).

The finding that PHNs in this study were able to identify numerous structural determinants affecting their clients food insecurity status in the GASHA area, including the rural nature of their public health units, changing demographics (loss of farming in their communities), high levels of poverty, loss of local food banks and community food-based initiatives (community kitchens), lack of coordinated efforts to address food insecurity, and lack of municipal knowledge, suggests that PHNs in this study have an in-depth understanding of the challenging life circumstances of their clients living with food insecurity and the complexity of the root causes of food insecurity. Perhaps more notably was the fact that the PHNs took the

initiative to ask client's about their ability to afford food and to identify these structural determinants despite food insecurity being discernibly absent on provincial screening tools. The PHNs understood that, although the root causes of food insecurity are structural, the effects of food insecurity are experienced at the individual level and used this knowledge of food insecurity to assess for risk factors of their clients. The screening and assessing of the contextual factors affecting clients is consistent with recommendations by the CNA (2013) and the NS DHW (2015), to include an analysis of factors contributing to health inequities. These observations lend credence that PHNs need to remain in close contact with vulnerable people because they bear witness to how policies and public conditions influence people's lives (Ballou, 2000). Such proximity and understanding further reinforce that PHNs are good conduits of knowledge and can help engage and inform decision-makers about the links between poverty, food insecurity, and health, and the potentially damaging effects of government policy (Farrer, et al., 2015).

6.2.2 Unpacking the knowledge-practice divide. Through analysis of the data, it became clear there was a significant divide between PHNs' understanding of food insecurity as a complex sociopolitical problem requiring policy interventions, a seemingly supportive health system to do so through the articulation of these principles in key public health guiding documents (NS DHW, 2015; Province of NS, 2014), and how PHNs' described day-to-day practices. Most of the PHNs were pulled away from participating in community food-based programs and system redesign activities, resorting to short-term "Band-Aid" solutions to address food insecurity, despite their acknowledgement of the structural inequities encountered by clients. PHNs also understood that the short-term solutions they resorted to did not address the structural inequities, thereby perpetuating inaction for sustainable solutions for their clients (McIntyre et al., 2018). The tasks, primarily clinical work at the individual level, had eroded the

broader tenets of the PHN role. As a result, PHNs were not working to full scope, and practice was inconsistent with PHN standards and competencies. This shows a disconnection between the values within the public health system and the inability of PHNs to implement them in their practice with clients to address food insecurity. This policy implementation gap has been well documented in other areas of public health nursing practice within the Canadian literature (Cohen & McKay, 2010; McPherson et al., 2016; Meagher-Stewart et al., 2010; Reutter & Kushner, 2010).

A key finding of this study was how crucial the organizational culture was in acting as an enabler or constraint to PHNs' practice. Organizations can be a site of empowerment or oppression, and power within organizations enhances or limits the actions and capacities of the professionals within the system (Annett, 2009; Cohen & Marshall, 2017). These forces of oppression are enacted through the organizational culture (Ramji & Etowa, 2018). In this study, it was discovered that the organizational culture, and the underlying internalized values, attitudes, and traditions in regards to the PHNs' scope of practice, trumped PHNs' personal commitment to engaging in upstream action and progressing the health equity priority. Many PHNs voiced that the organizational culture had left them feeling "pigeonholed" into specific clinical tasks, limited their opportunities for upstream action, disconnected them from clients and communities, and restricted autonomy in practice. Indeed, PHNs' scope of practice in this study overburdened them with a marked emphasis on one-on-one education (healthy behaviours, healthy child development), counselling (coping skills), and the provision of direct care services (immunizations) to low-income families and children; findings that are consistent with an overwhelming amount of other Canadian researchers who have reported that PHNs are mainly promoting individual lifestyle interventions (Beaudet, Richard, Gendron, & Boisvert, 2011;

Cohen & McKay, 2010; NCCDH, 2014a; 2018; Underwood, et al., 2009). Compounded by the struggle to embrace health equity as an integral part of contemporary PHN practice, the organizational culture inevitably oppressed PHNs' and affected their engagement in broader food insecurity and health equity aims. The values and attitudes about the scope of PHN practice within the public health organization were often taken for granted and represented a powerful force limiting the activities of PHNs. These underlying influences were reasons why there was a discrepancy between what PHNs envisioned as their potential role in addressing food insecurity and what their current role allowed them to do and also limited their work on system-level intervention (Cohen & Marshall, 2017; Meagher-Stewart et al., 2007; Meagher-Stewart et al., 2010; Underwood et al., 2009). Ultimately, organizational oppression and power slowed progress toward a unit-wide health equity and food security agenda.

Intriguingly, the context of the organizational culture emerged as a key factor supporting PHNs' ultimate ability and motivation to address food insecurity. The structure of the work environment and access to power and opportunity influenced the attitudes and behaviours of the PHNs working within their public health units. Definitions of power can include the ability to get things done and to mobilize resources (Manojilovich, 2007), so positive structural power in clinical practice can have major implications for effective practice. This finding is similar to other Canadian researchers highlighting the influence of organizational structures on public health action and health equity (Meagher-Stewart et al., 2007; McPherson et al., 2016; Raphael, Brassolotto, & Baldeo, 2015). In this study, PHNs reported that the development and implementation of frontline health equity experts increased their strategic focus on health equity, far beyond where they were working before the introduction of these positions. It was clear that the health equity experts had a significant positive impact on the capacity of many PHNs to

advance strategically focused health equity plans and to empower PHNs participation in *HEART* to effectively engage in work to address food insecurity. Public health organizations across Canada have created health equity specific staff positions to increase organizational capacity (NCCDH, 2014a; 2018). These expert positions are typically responsible for developing and implementing health equity strategies and interventions, with the leadership authority for carrying out the functions associated with improving SDH and health equity (Daghofer & Edwards, 2009; McPherson et al., 2016). In McPherson and colleagues' (2016) study, which examined key factors influencing the development and implementation of the social determinants of health public health nurse (SDH-PHN) role in Ontario, the researchers discovered that these expert positions typically assisted PHNs and other public health staff in developing and implementing health equity strategies and interventions with formal organizational or leadership authority (McPherson et al., 2016). Indeed, access to frontline health equity experts structured the opportunity to increase PHNs' knowledge and skills, to access and mobilize resources, and to develop and implement plans to make equity practice change. This enabled the PHNs to grow their scope of practice and contribute to an enhanced health equity agenda.

In light of the importance of health equity experts for promoting PHN's ability to work to full scope of practice, management has an important role to support and foster collaboration between the PHNs and the health equity consultant. Similar to concerns that the PHNs felt about the provincial standardization of services creating more channels of communication, requiring more time and resources for communication, and less time and support for engaging in upstream action for addressing food insecurity, the aggrandizing of the new health equity consultant roles into managerial positions may hamper PHN's access to their support due to a dissonance that

may occur between different bureaucratic layers in public health organizations (McPherson et al., 2016). Transitioning these positions to managerial positions challenges the PHNs to work against the structural and practice norms of having immediate access to frontline health equity experts that work in the public health units alongside them. Management practices are foundational to developing the structures and processes for formal communication and decision-making within public health units (CHNC, 2013). Therefore, managerial leadership will be essential to carrying out these new consultant roles and ensuring they continue to provide cross-organizational support through successful organizational structures (Cusack et al., 2017; Cohen, et al., 2013) and facilitation of “connections both horizontally and vertically in the organizational hierarchy” (George & Lovering, 2013, p. 54).

The finding that public health managers influenced the impact of organizational culture on the prioritizing of SDH and health equity and influenced the degree of PHN engagement in upstream activities for food security extends understanding regarding the context-specific (Pauly, MacDonald, Hancock, Martin, Perkin, 2013) and highly relational (rather than individualistic) nature of PHN practice for health equity (Kenny, Sherwin, & Baylis, 2010; McPherson et al., 2016). Similar to the findings of the *National Community Health Nursing Study* (Meagher-Stewart et al., 2010; Underwood et al., 2009), the importance of effective and empowering leadership emerged in the data as foundational for effective PHN practice. For instance, despite the nature of the *NS Public Health Standards and Health Equity Protocol* (2015) as directives to address health inequity and SDH, PHNs at the local public health unit level felt that provincial guidance on these issues was lacking. What was originally intended as leeway to support local, evidence-based decision-making, which is fundamental to PHN practice, was interpreted by some as a lack of direction by public health management and policymakers. This suggests that

standards alone were not sufficient to shift practice at the local level, especially considering the stronghold of traditional biomedical/lifestyle public health programming. Participants reported that they were empowered to engage in upstream action to address food insecurity when their managers explicitly supported them to do so by allowing them time to do it and gave them autonomy to practice as needed. This suggests that when effective leadership permeates an organization, members feel empowered and motivated to be effective in their roles (McPherson et al., 2016). Therefore, in addition to guiding documents for evidence-based practice, managers need to provide leadership in assisting PHNs to work to full scope of practice. An understanding of PHNs' in-depth knowledge and wide range of activities to address food insecurity may be the first step in providing this leadership.

6.2.3 Working within the space of upstream and downstream. An overarching influence shaping the work practices of PHNs in this study was the tension between supporting families facing food insecurity on an individual versus population basis. The findings show that a shift in priorities within the NS public health system towards more upstream, community-level strategies to promote population health affected PHNs work practices (NSHA, 2016). Almost all participating PHNs described a portion of their role being directed towards upstream strategies, whether being involved in SDH awareness raising through *HEART* or supporting youth's advocacy endeavours within school settings. The tension at the systems level was reflected at the practice level, as several PHNs described the challenge of juggling their responsibilities in upstream community-level work with the immediate needs of individual clients and families, and in the lack of clarity in priorities of the PHN role.

Ironically, although population-based upstream action has been identified as the only way for long-term elimination of food insecurity (Collins et al., 2014; Kalina, 2001; Tarasuk et al.,

2015), the PHNs in this study felt the changing priorities led to several negative consequences for the quality of support provided to clients on an individual basis. Consistent with unpublished research that looked at PHNs' breastfeeding support among food insecure mothers, the targeting of breastfeeding support services to high-risk populations only (i.e., Healthy Beginnings; Nova Scotia Public Health, 2015), and eliminating prenatal classes delivered by PHNs and transitioning support to online parental courses on the "Welcome to Parenting" website (NSHA, 2017) - which reflects a shift in values prioritizing health promotion approaches - limited PHNs' contact with clients and families in the community. This may represent a significant missed opportunity for PHNs' lead role in monitoring to address food insecurity. In addition, although the NS *Health Equity Protocol* suggests that support for new parents is provided using "targeted universalism" (Nova Scotia Public Health, 2015, pg. 5), through providing support for the whole population as well as specific strategies to address barriers faced by vulnerable groups, PHNs believed that families in need of support are falling through the cracks. For example, although home visiting programs were viewed as a way to increase rural access to services, the strict restriction of home visits to eligible vulnerable populations shows how this healthcare efficiency strategy contributed to the inequity in access to health care for rural residents. Home visits conducted by PHNs are a means for health promotion, education, control of communicable diseases, and follow-up referral of patients to community resources (Abbot & Elliot, 2017; Aston et al., 2016; Aston et al., 2014). Home visiting is a key strategy highlighted by the Public Health Agency of Canada (PHAC; 2009) to promote access to health care. Through home visits, PHNs play a critical role in identifying family risk factors and ensuring access to services that promote health (Abbot & Elliot, 2017; Aston et al., 2016). In reality, these findings suggest that the current public health system in NS may neglect to acknowledge the needs of rural women facing

food insecurity and continues to reinforce ruling relations in the health system, such as the standardization of support services as described by several other authors (McCarter-Spaulding, 2008; Waddington, 2016).

This tension between upstream and downstream approaches reflects a significant challenge in today's health system of moving towards upstream, preventative approaches while continuing to provide adequate healthcare services, particularly among vulnerable populations (CMA, 2010). In this way, the under-resourced health care system itself acts as a major constraint to engagement in addressing food insecurity (Meagher-Stewart et al., 2007; Meagher-Stewart et al., 2010; Underwood et al., 2009).

6.2.4 Increasing the visibility of PHNs. Although it was evident in this research that PHNs make major contributions to many of the activities and accolades attributed to addressing food insecurity across the continuum, one-on-one work with clients was perceived as becoming undervalued in the public health system as priorities shifted upstream. Corroborated by comments from public health staff and municipal government officials who were unable to describe the role of the PHN, findings in this study build on the growing body of research that indicates that the work of PHNs is often invisible and misunderstood (Aston et al., 2016; Schofield et al., 2011). This “invisible” work has contributed to the underutilization of the PHNs workforce in Canada (Schofield et al., 2011) and has previously been described as a looming crisis in public health nursing (Beaudet et al., 2011; Cohen & McKay, 2010; Cusack et al., 2008; Schofield et al., 2011). Disheartening were comments by PHNs in this study that they felt public health nursing practice was at risk of extinction, which is supported by Canales and Drevdahl (2014) who questioned whether there is a future for the specialty of public health nursing. Similar to findings in this study, as Canales and Drevdahl (2014) point out, other providers,

including Home Visitors, Health Educators, and Social Workers are taking over what were once traditional PHN roles in the community.

The invisibility and replacement of the PHN is reflected in the lack of understanding about the role of the PHN. At the health system level, findings revealed that the continual restructuring and changing priorities of the public health system have resulted in a lack of PHN role clarity. This finding is consistent with Falk-Raphael and Betker (2012) who found that short-sighted planning accompanied continual restructuring, which ultimately alienates public health nursing practice. To add to the ambiguity, some participants anticipated further changes of PHN roles due to the ongoing restructuring of the NSHA (NSHA, 2015).

Due to the shift in public health priorities, which was felt to separate PHNs from clients and communities, PHNs had a lessened knowledge of the community and were not necessarily aware of issues their clients and communities were facing. At the same time, the lack of role clarity of the PHN limited community partnerships and collaboration and jeopardized relationships with clients. Invisibility affected credibility and led clients and community partners to be unaware of the resources PHNs have to offer. Moreover, PHNs concerns about the credibility of their role was concerning because credibility, as perceived by the government and stakeholders, is influential in the degree and nature of organizations' participation in policy work (Bryson, Crosby, & Stone, 2006). Confidence in organizations' competence, expected performance, or anticipated contributions to solve a problem facilitated organizations' participation in policy initiatives and increased their political power (Bryson et al., 2006; Schneider et al., 2009).

6.3 Towards a PHN Professional Practice Model

As proposed in chapter two (Figure 2.1) and supported by findings from this study, the complexity of food insecurity work in public health nursing requires a systematic approach to comprehensive interventions that address both individual level issues and upstream or systemic level problems. To enable PHNs to enact a full scope of practice, organizational structures must be established that support innovative nursing practice and respect nursing knowledge and skills (Mitchell et al., 2013). A professional practice model that offers direction for a more fully developed PHN role in work to address food insecurity and the prerequisites to engaging in strategies to address food insecurity based on competencies and job description, will enhance their visibility and credibility for collaborative endeavours. Enhancing visibility and credibility of PHNs' role in work to address food insecurity is particularly relevant considering the interdisciplinary nature of food insecurity. A systematic articulation of the PHN role is imperative for the PHNs themselves by promoting a full scope of practice, managing workload pressures, and defining their value within the broader health system (CHNC, 2011; Cusack et al., 2017). An articulation of how PHNs engage in work to address food insecurity will allow stakeholders to more effectively work together by establishing the rationale and mandate for PHN involvement; educating stakeholders on the wide scope of content, structures, and processes required; and articulating strengths and limitations of a PHN role (Cusack et al., 2017). Professional practice models are intended to assist frontline practitioners and their managers to optimize service delivery by providing a framework and the common vision and language to articulate professional roles and responsibilities at organization and system levels (Cusack et al., 2017; Hedges et al., 2012). A professional practice model in this sense will assist PHNs in

bridging the gap between theory and PHN practice (Cohen & Reutter, 2007; Cusack et al., 2017) in this underdeveloped area of public health nursing practice; food insecurity.

Both existing literature and the current study's findings call for a comprehensive public health nursing professional practice model to address food insecurity within the Canadian context. This is currently missing. Overall, the themes outlined in the previous findings chapter aligned with the conceptual model (Figure 2.1) that guided this research, indicating that considerable intricacies of public health organizations and systemic environments both enabled and constrained engagement in work to address food insecurity, especially in upstream - or system redesign strategies. Although findings show that the conceptual model used (see Figure 2.1) to ensure the research captured the various dimensions of PHNs' engagement in work to address food insecurity, the discussion below captures new ideas that have been uncovered through this research that would be a starting point to consider in the development of a professional practice model. The direct input from the PHNs in this case study research was integral in the understanding of the additional components categorized in the following three sub-themes: (1) *PHNs' Mode of Reflexivity*; (2) *Recognizing and Celebrating Successes*; and (3) *Embracing a Multi-Sectoral Approach*.

6.3.1 PHNs' mode of reflexivity. Understanding the mode of reflexivity of PHNs is important in the development of a professional practice model because an account of the dynamics of moral distress within organizational and government contexts illuminates the broader contextual factors that impact the abilities of PHNs and other healthcare providers to enact ethical practice in the best interests of their clients (Goodman, 2017). Just as there are limits to individual agency in attaining health within adverse conditions, there are limits to

ethical practice within adverse conditions that cannot be addressed at the level of the individual (Scott, 2001).

Novel findings from this study indicate that internal conversations of PHNs resemble those of a fractured meta-reflexive. In other words, it was discovered that despite PHNs' desire to engage in work to address food insecurity through upstream action, the PHNs admit to huge difficulties in making decisions to engage in initiatives to address food insecurity at that level, in defining courses of action to be consistently pursued to address food insecurity and, above all, in struggling with doing anything more than the "survivalist's day-to-day planning" (Archer, 2012, p. 248). The finding that the PHNs formulated plans and strategies for food security and health equity but lacked the capacity to enact them in a consistent way due to the demands of everyday tasks that came to occupy their self-talk in a way that crowded out the choice to engage upstream action - which PHNs nonetheless have a propensity for - supports the identification of this mode of reflexivity (de Vaujany, 2008; Goodman, 2017).

The pressure of managerial demands, time constraints, and relations of power structures militate against meta reflexivity (Goodman, 2017), which makes engaging in work to address food insecurity intensely onerous, characterized by an intensity of introspection that is both a response to the stress and anxiety that circumstances provoke but also cause. Findings indicated that overall the PHNs are experiencing moral distress, described by Canadian authors as the "experience of being seriously compromised as a moral agent in practicing in accordance with accepted professional values and standards. It is a relational experience shaped by multiple contexts, including the socio-political and cultural context of the workplace environment" (Varcoe et al., 2012, p. 59). The PHNs in this study expressed feelings of moral distress because the organizational focus and program direction were incongruent with their PHN practice

philosophy. Participants considered numerous community-based roles that were no longer possible, such as community kitchens and participating in CHB discussions. There was limited PHN focus on health promotion and an inadequate focus on inequities. Moreover, the PHNs had the additional challenge of addressing inequities within the confines of a historical ideological, local political system that tended to blame and victimize people who face constraints and limited choices. In a predominantly neoliberal sociopolitical environment, PHNs, whose profession is rooted in social justice, consequently face increasing tensions and resultant moral distress (Brassolotto et al., 2014; Varcoe et al., 2012).

6.3.2 Recognizing and celebrating successes. A unique finding in this study was the importance attached to recognition and celebrating successes. This component is absent in other Canadian professional practice models (Cusack et al., 2017). PHNs believed that professionally meaningful recognition should be linked to specific accomplishments, not only empower them to be engaged in their work (Zwickel et al., 2016) but to create opportunity for knowledge translation. Knowledge translation would be enhanced through formal recognition and rewards because other organizations could learn and build on documented evidence-based strengths and achievements (VanDeVelde-Coke et al., 2012). Formal communication and decision-making mechanisms and management practices that include formal or informal rewards (i.e. celebrate success, certification, promotion and professional advancement) are essential for effective public health nursing professional practice (CHNC, 2013).

Formal structures include the development of a theoretical perspective to link organizational goals, scope, and outcomes of nursing practice (McEwen, 2011). Framing PHN practice through PHN-sensitive indicators of achievement should be based on values and principles as they provide the integration of theories that form the basis for public health nursing

practice. Values and beliefs guide practice by focusing on the most significant components of the role (Glavin, Schaffer, Halvorsrud, & Kvarme, 2014; Meagher- Stewart et al., 2010). While documents defining PHN practice provide PHNs with this guidance (CHNC, 2011; NSHA, 2015), the lack of role clarity and inconsistent practice to address food insecurity in the Eastern Zone necessitates more detail. A professional practice model could serve as a framework to begin to develop PHN- sensitive indicators. Indicators that reflect the complexity of PHN practice should be implemented in the NSHA. Increased understanding of PHN- sensitive indicators would be useful in beginning to understand the contribution that PHNs make to community food security outcomes (VanDeVelde-Coke et al., 2012).

6.3.3 Embracing a multi-sectoral approach. A practice model for food insecurity would need to have emphasis on partnerships and collaboration. The participants recognized that articulating PHN practice in isolation would not be sufficient and coordinated action and shared responsibility are essential in promoting health equity and creating population-level improvements (Cusack et al., 2017; Fawcett et al., 2010). Consistent with research in NS, Andrée and colleagues (2016) discovered that many of the groups working on community food security-related issues were “working in silos”, thus contributing to a lack of coordination and communication and constraining progress (p. 20).

Scholars have repeatedly declared that the ability to successfully exert influence in the various arenas, where future food system and healthy public policy decisions are made, and to take advantage of opportunities to present PHNs’ perspectives on the issues of food insecurity, depends on the creation of partnerships with multiple stakeholders, civil society organizations, and government leaders (Ford et al., 2010; Ford et al., 2012; Hamelin et al., 2010; Abood, 2007). The clear articulation of PHNs’ roles and responsibilities optimizes collaboration and

coordination of care and assists in communicating one's role to clients and other providers (Hedges et al., 2012). Further, partnerships and collaboration with health discipline stakeholders, inter-sectoral partners, and civil society organizations to effectively address food insecurity was perceived to be foundational to comprehensive initiative development, implementation, and sustainability. This is further supported in the international and Canadian literature (Choi & Pak, 2006; Newhouse & Spring, 2010; Reeves, Pelone, Harrison, Goldman, & Zwarenstein, 2017). PHNs often need to form strategic alliances with other disciplines and civil society organizations with similar interests and issues. These alliances can provide a coordinated and united approach that can have more impact than each organization acting individually and give PHNs a stronger voice (Cook, 2008; Falk-Rafael A, Betker, 2012). Insufficient co-operation between health and other sectors hamper efforts to advocate for policies that tackle health inequities (Farrer, et al., 2015).

This research extends the limited literature on the importance of municipal government support for addressing food insecurity, and other health inequities (Collins & Hayes, 2010; Collins et al., 2014). This study provided insight into how municipal governments engage with local food systems and captured the presence of food-related programs across the *Continuum of Community Food Security Strategies*, based on their framing of the issue. An analysis of participant definitions of community food security has illuminated the finding that the definitions was only a starting point for action. Instead, what was discovered was stakeholder knowledge, interests, opportunities, and priorities framed approaches to address food insecurity and determined the course of action, and not the definition itself. The capacities of the municipal government to take action on population health inequities at the local level was highly context-dependent and contingent on the priorities of these governments. This is consistent with

observations of Seed and colleagues' (2013) who assert that the extent to which one shows concern with addressing health inequities is directly related to the function of his or her theory of justice, society, and reasoning. Findings also reinforce assertions that views concerning food insecurity and its determinants are inherently political as food insecurity involves processes of societal power and how economic and social resources are created and distributed among the population (McIntyre, 2011; McIntyre et al., 2016a; Raphael et al., 2015). These findings suggests that these issues need to be made explicit and integrated into ongoing discussion of how PHNs and municipal government can work together to address food insecurity.

Municipal government interest was shown to influence PHNs involvement in community food security initiatives, such as community kitchens and school gardens. Many of the participants voiced that to be empowered and have the capacity to engage in community food security endeavours, they would need buy-in and understanding from local politicians. Indeed, PHNs with close working relationships with local municipal councillors with knowledge and priorities for food security allowed the PHN to engage in food system sustainability activities. The PHNs were hopeful that the introduction of new municipal councillors, who were perceived to be more liberal in their thinking compared to their predecessors, would begin to support action to address the structural determinants of food insecurity. However, several findings emerged through the data that indicate municipal government action alone cannot effectively eliminate, or even address, food insecurity.

Similar to other areas in Canada, findings indicate an ongoing focus towards lifestyle factors in public health practice (Kirkland & Raphael, 2018; Raphael & Curry-Stevens, 2016) and communicating the importance of improving the quality and equitable distribution of the SDH through public policy action to policymakers and the public has been difficult. The recent

expansion of responsibility downloaded to local CHBs that have little experience with decision-making processes and the elimination of PHNs attendance at CHB meetings shows the NSHA plans to further shift decision-making power to the local level. This further engrains a focus on encouraging individuals to take responsibility for their own health behaviours, rather than the government taking the lead in creating healthy environments.

To date, municipal governments have done little in terms of addressing the structural determinants of food insecurity, despite acknowledging that food insecurity is rooted in inadequate income, and the recognition of the right to food by several international covenants (Collins, Gaucher, Power, & Little, 2016; Collins, Power, & Little, 2014), which indicate that Canadian governments are obliged to address food insecurity (Haugen, 2012; McIntyre et al., 2016b). Similar to Collins and colleague's (2014) study, the fact that municipal government cannot access policy levers to increase income security has made food-based initiatives the default option for addressing food insecurity in the Eastern Zone. Given that NS municipal governments are unable to institute policies to eliminate poverty, it is valid and necessary to allocate public health dollars to initiatives aimed at reducing food insecurity resulting from poverty. This is best achieved by focusing on poverty's causes, as opposed to consequences.

Greater funding and more human resources were among the most frequently cited supports participants identified as being essential to strengthening their efforts to address food insecurity. Such views coincide with the observations of other researchers concerning challenges with human resource and funding constraints in the Canadian public health system (Meagher-Stewart et al., 2010). The funding challenges expressed by municipal government, particularly the struggle with balancing a budget and that the majority of municipal budgets went into improving or maintaining physical infrastructure in their communities, are consistent in light of

Canada's current political structure. Canada has been identified as a liberal welfare state or one where the distribution of resources and goods is driven by market interests (Raphael, 2008). In this sense, businesses - particularly large corporations - have the ability to influence governments in a number of ways, i.e., by threatening to shift investment capital to another location or to raise borrowing rates (Raphael, Curry-Stevens, & Bryant, 2008). Neoliberal processes, such as these, have been shown to increase poverty and income inequalities (McIntyre et al., 2016a). McIntyre and colleagues (2016) contended that so long as neoliberalism remains the dominant discourse related to political and economic processes in Canada, population health and the organization of health care will continue to be threatened.

6.4 Implications for Practice, Policy, Education, and Research

Findings and analysis from this research will be presented to the public health leadership team and staff at the case organizations. A potential outcome might be an action agenda for the case organizations to pursue beyond my involvement as the researcher. The undertaking of PHNs' engagement in addressing food insecurity gained from this research has implications for other audiences as well, including; public health managers and public health staff outside of the case organizations; policymakers in the policy arena; educators in academic institutions; and researchers committed to advancing PHNs' involvement in addressing food insecurity and health equity.

6.4.1 Implications for practice – PHNs and public health leaders. The implications for practice that are grounded in this research and existing body of knowledge, with respect to strengthening PHNs' engagement in addressing food insecurity, aim to address not only barriers to engagement in addressing food insecurity at individual and organizational levels by

facilitating more effective PHN support, but also provide strategies to address system-level barriers.

Table 6.2: *Practice Recommendations*

Practice Recommendations
<ul style="list-style-type: none"> • PHNs need to address food insecurity using a health equity lens.
<ul style="list-style-type: none"> • PHNs need to work upstream and downstream. It is critical that PHNs intervene with families directly, but they must also be active in advocating for policy changes at all levels of government based on their direct knowledge of the communities they serve. PHNs should assume a lead monitoring role for food security and should have a voice at decision-making tables. PHNs can assist organizations and governments to consider policies that promote social justice (Ivanov & Oden, 2013) and assume a leadership role in challenging the social structures that contribute to inequities in both policy and practice (Pauly et al., 2013). This is particularly relevant for policies directing PHN practice with individual clients. PHNs must advocate for social policies, universal home visiting, and collaborative efforts that will improve the health of their clients. PHNs are ideally positioned and can continue to bring forward social injustices they observe in practice and advocate for change.
<ul style="list-style-type: none"> • PHNs must work in collaboration with communities, health partners, and non-health partners in addressing food insecurity. It is vital that municipal government and public health work together through integrated and coordinated approaches to break down silos between sectors and jurisdictions, as well as address differences in perspectives to ensure long-lasting and sustainable solutions to food insecurity.
<ul style="list-style-type: none"> • Public health leaders need to foster collaboration and enhance PHNs alliances to strengthen their credibility and capacity in work to address food insecurity. Taking action on the SDH and health equity requires a multidisciplinary approach. Human resource initiatives that draw from a range of disciplines will benefit from diverse skills and perspectives. Ensuring organizational structures that encourage PHN autonomy and provides the time to reach out and maintain a physical presence in the community will be essential for building and developing meaningful relationships that could lead to opportunities for creating food security programs. Organizational structures that bring public health disciplines together and helps reduce internal silos (e.g., <i>HEART</i>, for example) was a source of empowerment identified by many PHNs. In addition, some participants voiced that action to address food insecurity was strengthened by joining the efforts of groups that lobby for improved poverty policy. Celebrating successes was also identified as a way to encourage knowledge exchange and network development for those engaged in similar initiatives (i.e., school gardens).

Practice Recommendations

- Public health leaders need to address organizational structures that constrain PHNs engagement in work to address food insecurity. Public health leaders should explicitly align workplace values, culture, and practices with health equity. By doing so, managers create an environment for PHNs to develop a reflexive public health practice (McPherson et al., 2016). This would also help to address the lack of clarity about the role of PHNs in addressing food insecurity, alleviate tension in the practice environment, and demonstrate organizational and leadership support for the work. It would also underline the need to shift approaches, from a largely downstream to an upstream focus.

6.4.2 Implications for policy – policymakers. Policymakers have an important role in acknowledging the contributions of PHNs to help people facing food insecurity. Implementing mechanisms to engage and dialogue with PHNs in developing solutions to solve food insecurity are warranted. Such efforts in valuing PHNs’ knowledge, skills, and experiences may begin to change the tone at the system level and within the nursing community at large, including enhancing their engagement in addressing food insecurity. Policymakers can also support the development of resources for employers who need health equity impact assessment tools to facilitate equitable outcomes and measure PHNs’ engagement in work to address food insecurity.

Although PHNs in this research understood the root causes of food insecurity and the associated negative health consequences, the findings revealed that the majority of PHNs did not have the capacity to address these issues in their practice much beyond referring clients to emergency food and community programs. For this reason, PHNs should be equipped to address food insecurity through advocacy for their vulnerable clients, supporting previous calls to action for nurses to help the public understand the SDH and organize to take action (CNA, 2012; CHNC, 2011; CPHA, 2010; Falk-Rafael & Betker, 2012; Muntaner et al., 2012; NSHA, 2015). This will require policy shifts at the health system level. Recognizing the potential lead monitoring role for food insecurity, policymakers can facilitate appropriate policy development,

as well as the appropriate allocation of time and resources for supporting PHNs in this role. The unique opportunity to bring client's voice to the decision-making table is a compelling case for policymakers to develop interventions to enable PHNs to lead this monitoring role. Again, meaningful engagement and dialogue with PHNs have the potential for novel solutions.

Table 6.3: *Policy Recommendations*

Policy Recommendation
<ul style="list-style-type: none"> Public health leaders should initiate and support the operationalization of a public health nursing professional practice model. Public health managers play a significant role in creating the context for nursing work and promoting a culture that recognizes and communicates the value and autonomy of nursing practice. The creation of a common vision, clearly identified goals and responsibilities promotes understanding of the nursing role and enhances organizational efficiency (Cusack et al., 2017; Underwood et al., 2009). The lack of clarity regarding public health nursing practice, and perhaps lack of voice, resulted in the erosion of a population-based PHN approach. The implementation of a professional practice model may increase awareness of other health and social service providers, and how the full scope of PHN practice complements and works in collaboration with others. Results of this study support PHNs' important role in the provision of both targeted downstream and universal upstream programs and working in collaboration to foster community food security.
<ul style="list-style-type: none"> Policymakers need to shift their views of leadership to support shared leadership among PHNs, public health, government officials, and civil society. In addition, governance structures must embody shared decision-making between direct care staff and management and challenge organizational hierarchies by acknowledging, respecting, and trusting the unique content expertise of nurses (George & Lovering, 2013; Leclerc & Lavoie-Tremblay, 2007). Shared leadership involves the collective influence of team members that is embedded in social interactions (Carson, Tesluk, & Marrone, 2007; Currie & Lockett, 2011). Shared leadership theories are relevant to healthcare, where there is an explicit focus on inter-professional teamwork. Evidence is emerging on the potential benefits of shared leadership, with several international research studies documenting a positive association between shared leadership and team performance (Bergman, Rentsch, Small, Davenport, & Bergman, 2012; Ensley, Hmieleski, & Pearce, 2006; Pearce & Sims, 2002; Wang, Waldman, & Zhang, 2014), staff empowerment (Barden, Griffin, Donahue, & Fitzpatrick, 2011), staff satisfaction (Sherman & Pross, 2010) and improved service outcomes (Fitzgerald, Ferlie, McGivern, & Buchanan, 2013).

Policy Recommendation

- Government needs to shift the neoliberal sociopolitical context that results in victim blaming. Municipal government knowledge, responsibilities, and priorities significantly influenced PHNs' engagement in work to address food insecurity. Public health dollars must be allocated to initiatives aimed at reducing food insecurity resulting from poverty, particularly since municipal government has a limited budget to balance. Participants identified balancing a limited municipal budget and subsequently not allocating funding appropriately, as being potentially catastrophic to vulnerable populations.
- Policymakers need to develop and support the use of a health equity impact assessment tool. NS Public Health Protocols were not considered to be user-friendly and were impractical for use on a daily basis. A health equity impact assessment tool was identified as a method for PHNs to be able to use the protocols practically in the creation and delivery of more equitable programs and services. Providing guidance to PHNs on how to implement health equity mandates while maintaining flexibility for local adaptation will support implementation. Structural approaches such as health impact assessments can assist staff in reflecting on concepts and implications of their practice (Raphael et al., 2015). Essential system factors include adequate government funding, legislation, as well as supportive policies and leadership (Cohen et al., 2013).
- Public health leaders and decision-makers should seek to engage PHN input at all organizational levels and include PHNs as equal partners with professional content expertise. Findings from this study indicate that PHNs want to be more involved in decisions that affect their practice. Work that is led by staff using a collaborative strengths-based approach to practice decisions is more likely to reduce system costs, increase efficiency, and improve nurse satisfaction (Shendell-Falik, Ide, Mohr, Laliberte, & De Guerre, 2012).
- Policymakers must develop clear accountability measures to ensure health equity consultants meet the intended mandate of increasing organizational health equity capacity. Clearly defined responsibilities for health equity consultants that draw explicit links between provincial mandates and locally planned actions would minimize the disconnect between provincial plan intentions and local health unit interpretations (McPherson et al., 2016). Public health leaders must ensure the organizational structures are in place for effectively communicating consultant information, advice, and guidance to ensure health equity is incorporated into program planning, implementation, and evaluation. A lack of communication from senior leadership during the introduction of health equity consultants was identified by PHNs as causing a lack of role clarity among all staff.

6.4.3 Implications for educators. Educators have the unique role of supporting nursing students and PHNs to engage in critical analysis about complex healthcare and nursing issues.

Creating platforms for meaningful experiences in undergraduate programs should serve to expose students to the passion and enthusiasm associated with the PHN role, as well as the complexity and depth. Students should understand the principles of a population-based practice, and the competing demands that individual clinical care creates. The research points to several content areas that warrant early and repeated emphasis in nurses' undergraduate education to have positive effects, not just on students, but on practicing PHNs as well. Focused attention on the concepts of health equity and SDH cannot be overemphasized. Use of case studies to practice applying the equity lens to client related scenarios can help make the connection between healthy work environments for PHNs and quality care for clients. Leadership and political influences for PHNs are especially relevant for their role in addressing food insecurity and other SDH.

Table 6.4: *Education Recommendations*

Education Recommendations
<ul style="list-style-type: none"> • Educational programs should develop nursing curriculum that highlights food insecurity as a key social determinant of health.
<ul style="list-style-type: none"> • Educational programs should develop nursing curriculum that highlights inter-professional collaboration. Students would benefit from awareness of concepts of inter-professional collaboration in PHN practice settings. The basis of well-functioning collaborative teams is a strong foundation in one's own discipline and the ability to articulate discipline-specific knowledge (Fawcett et al., 2010). Findings from this study indicated that PHNs had difficulty articulating their role and were not always clear about their function in working collaboratively with community partners. For PHNs to be active participants, they must graduate from baccalaureate programs with a strong theoretical foundation in public health nursing.

Education Recommendations

- Nursing education programs should build on the program of certification, as well as support/encourage staff to obtain certification. Currently, the CNA (2018) offers certification in community health nursing, which provides official recognition by nursing colleagues and health system stakeholders that certified nurses are qualified, competent, and current in the practice of community health nursing. A lack of consistency in education programs to prepare nurses to work in the field of public health has been identified as a major challenge across a variety of international education and practice environments (Hemingway, Aarts, Koskinen, Campbell, Chasse, 2013). Public health practice is extremely complex, and as such many countries, with the exception of Canada and Finland, additional specialist education is required for entry-level requirements for PHN practice (Hemingway et al., 2013).
- Educational programs need to redesign nursing education to enhance opportunities for practical experience with population-level strategies using a health equity lens. Case-based scenarios that portray the complexity of PHN practice may be helpful to promote understanding of contrasts between clinical/bio-medical issues encountered in acute care settings, the principles of a population-based practice, and the competing demands that individual clinical care creates (Sarsfield, 2013). Tensions between knowledge and practice were identified as a major concern for PHNs in this research.
- Within public health units, public health leaders should support continuing education and professional development - particularly in regards to addressing SDH and health equity. There is a need for increased knowledge and skills of public health practitioners about public health advocacy, particularly in regards to health equity (Cohen & Marshall, 2017). The wide range of advocacy strategies and related skills identified indicates that advocacy is broader than lobbying politicians/policymakers.

6.4.4 Implications for researchers. Researchers have an opportunity to critically examine the contributions that PHNs make to advance the public health goal of decreasing food insecurity. Further work is required in operationalizing PHNs' role in food insecurity through this research. Future research can build on novel findings in this research as a starting point to consider in the development of a public health nursing professional practice model in the context of engaging in work to address food insecurity. The critical yet still-emerging area of health equity and addressing food insecurity would benefit from additional research that further examines PHNs nuanced roles for addressing food insecurity in other areas of NS. Measurement

tools to assess PHNs' contributions, as well as organizational facilitators, can be helpful in establishing benchmarks and for purposes of province-wide comparisons.

Table 6.5: *Research Recommendations*

Research Recommendations
<ul style="list-style-type: none"> • Similar research in other jurisdictions should be conducted to strengthen the science base behind PHNs' engagement in addressing food insecurity and increase the strength of the transferability of the findings reported here.
<ul style="list-style-type: none"> • Additional research is needed to further explore PHNs' nuanced roles in addressing food insecurity and other SDH, as well as the contributions they make to decreasing food insecurity. PHNs can be deliberate in their approaches to address food insecurity, by basing their practice on research evidence. Research on how best to prepare/educate PHNs on potential roles to address food insecurity should also be explored.
<ul style="list-style-type: none"> • Use participatory action research to develop a professional practice model specific to PHNs role in addressing food insecurity. Action research methods are innovative approaches that challenge the status quo (Elliott, 2011). In nursing, action research extends beyond the production of knowledge, to creating interventions with the potential to improve clinical practice and create change (Streubert & Carpenter, 2011). The depth of research is enhanced as professionals draw on their education and experience to develop solutions to difficult and ongoing issues (Streubert & Carpenter, 2011). There is an opportunity to build capacity, develop trust, and foster engagement that assists in identifying and articulating local knowledge that may otherwise remain buried (Elliott, 2011).
<ul style="list-style-type: none"> • With the recent introduction of health equity consultants in public health in NS, their activities and their influence on their respective organization's capacity to address health equity work should be studied.

Research Recommendations

- There remains a need to develop a valid and reliable instrument to measure all four dimensions of food insecurity at the individual, household, and community levels. A concern about inadequate screening tools that do not assess the spectrum of household food insecurity, subsequently missing potential clients who were falling through the cracks, warrants the development of a comprehensive screening tool. A screening tool should include experiences of anxiety and running out of food, and questions that capture utilization, coping mechanisms, and stability over time to ensure more accurate measures of food insecurity (Burns et al., 2010). Currently, there is no individual instrument that measures community food security (Ashby et al., 2016). This may be due to the fact that multiple methods and instruments, including healthy food basket costs, food outlet mapping, and community needs assessment, are recommended to fully understand community-level food insecurity (ACT for CFS, 2018). Alternatively, in the absence of a comprehensive instrument, other methods may be used to complement these ‘food access’ assessments, for example, food outlet mapping to measure ‘availability’ of food in a community.
- A careful assessment of the full impacts of changes in public health services intended to promote health equity is required in light of challenges identified with the reduction of breastfeeding support services at the public health system level (related to a shift in focus to upstream health promotion), which affected many of the PHNs in this study. A recent research project in NS identified PHNs as the main support person by breastfeeding mothers facing food insecurity (Waddington, 2016).
- It is clear from the findings of this study that a greater transparency of, and understanding of stakeholder agendas in NS, including competing agendas, could contribute to the success of initiatives and possibly mitigate tensions between stakeholders. Despite remarkable knowledge, research, and efforts, community food security is far from being realized in NS (Andrée et al., 2016). The NS health sector has yet to officially acknowledge food security as a core public health function. The extent to which municipal governments embrace and support food security work varies considerably between regions in this study. Food security programs and services remain fragmented, ad hoc, and lacking in stability. Coherent food policy at all levels is slow to emerge. A standardized set of food security indicators has not been developed. A greater grasp of competing agendas will also provide a gauge of importance to food security work. And finally, the creation of mutual agendas, or shared values has the potential to forward community food security goals by broadening the emerging cultural shift that focuses on healthy, just, sustainable food systems and to build inclusive communities in NS through cross-sectoral coordination and partnership, dialogue, action, research, and accountability and ensure this results in social and policy change (ACT for CFS, 2015).

6.5 Conclusion

The passion demonstrated by PHNs in this study for food insecurity work was inspiring. Ultimately this study suggests that public health units may benefit greatly from the investment in PHNs' engagement in work to address food insecurity and provides support for a strengthened role for PHNs in this regard. Building on existing research, this study extends understanding of the dynamic interplay among leadership, differing ideologies, and organizational culture impacting health equity agendas on PHN practice. By illuminating the divides between PHN's current practice and ideal support, potential roles, the political ideology, and policies at the institutional health system level that act as ruling relations has made the challenges PHNs experience in the current "restrictive organizational culture", both within and external to the public health system visible. This is the first study, to interrogate the public health organization and local political context in light of the impact on current community food security initiatives, PHNs' engagement in work to address food insecurity, and the influence on broader health equity goals for communities.

Additionally, these findings give a voice back to Nova Scotian PHNs and allow them to support their clients struggling with food insecurity. It also provides a platform to verbalize the ideal supports needed to effectively work to full scope of practice. Findings revealed that PHNs particularly benefited from the support of health equity experts and structurally embedding health equity as an organization and system priority that engaged many stakeholders. Given that food insecurity is an interdisciplinary problem, it is important for PHNs to collaborate with affected communities and other stakeholders for effective action on food insecurity. Increasing knowledge and capacity for effective system-wide intervention towards community food security are critical strategic priorities for both PHNs and municipal governments.

This study is important and relevant for contemporary public health nursing practice because the impact of food insecurity on population health outcomes continues to come to a fore. The results of this study offer recommendations for supporting effective public health nursing practice to support health equity through action on food insecurity. Articulating the PHN role through a professional practice model will promote a full scope of practice, help manage workload pressures, and define their value within the broader health system. With the appropriate and effective public health leadership at multiple levels, PHNs may be able to answer the call to action in the search for solutions to food insecurity in partnership with other stakeholders. This outlook is well overdue in the context of PHNs as an equity-seeking group of nurses.

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Appendix A: University of Ottawa Certificate of Ethics Approval

File Number: H 02-16-07



Date (mm/dd/yyyy): 05/19/2016

Université d'Ottawa **University of Ottawa**
 Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

Certificate of Ethics Approval**Health Sciences and Science REB****Principal Investigator / Supervisor / Co-investigator(s) / Student(s)**

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Josephine	Etowa	Health Sciences / Nursing	Supervisor
Shannan Kathleen	MacDonald	Health Sciences / Nursing	Student Researcher

File Number: H 02-16-07**Type of Project:** PhD Thesis**Title:** Understanding Public Health Nurses Engagement in Addressing Food Insecurity**Approval Date (mm/dd/yyyy)**

05/19/2016

Expiry Date (mm/dd/yyyy)

05/18/2017

Special Conditions / Comments:

N/A

Appendix B: Nova Scotia Health Authority Full Approval Letter



Nova Scotia Health Authority Research Ethics Board



October 27, 2016

Ms. Shannan MacDonald
Graduate Studies

**Delegated Review
Full Approval Letter
(October 27, 2016 to October 27,**

2017)

Dear Ms. MacDonald:

RE: Understanding Public Health Nurses Engagement in Addressing Food Insecurity

NSHA REB ROMEO File #: 1021668

Thank you for your response regarding your proposed study.

Document Name	Comments	Version Date
Consent Form	Consent form - MC Version 2	2016/10/23
Consent Form	Consent form - PHE Version 2	2016/10/23
Consent Form	Consent form - FGD Version 2	2016/10/23
Curriculum Vitae (CV)	PI abbreviated CV version 2	2016/10/25
Curriculum Vitae (CV)	Site investigator (Johnson) abbreviated CV	2016/10/26
Investigator Response/Revisions	Cover letter	2016/10/26
Research Protocol	Version 2	2016/10/23

I have reviewed these documents on behalf of the Research Ethics Board (REB) and note that all requested changes have been incorporated.

I am now pleased to confirm the Board's full approval for this research study, effective today. This includes approval / favourable opinion for the following study documents:

Document Name	Comments	Version Date

Certificate of Completion TCPS 2: CORE	SI_TCPS	2014/05/27
Certificate of Completion TCPS 2: CORE	Site Investigator	2015/07/09
Certificate of Completion TCPS 2: CORE	PI_TCPS	2014/03/15
Consent Form	Consent form - MC Version 2	2016/10/23
Consent Form	Consent form - PHE Version 2	2016/10/23
Consent Form	Consent form - FGD Version 2	2016/10/23
Curriculum Vitae (CV)	SI_abbreviated-cv	2016/08/18
Curriculum Vitae (CV)	PI abbreviated CV version 2	2016/10/25
Curriculum Vitae (CV)	Site investigator (Johnson) abbreviated CV	2016/10/26
Investigator Response/Revisions	Cover letter	2016/10/26
Letter of Participation	Site-investigator-collaborating-institution, Guysborough, Antigonish and Richmond Counties, Signed by Donna Samson	2016/06/13
Letter of Support	SI Dept. Signed and Dated by Daphne Lordly	2016/08/15
Letter of Support	PI Dept. Signed and Dated by Josephine Etowa	2016/06/03
Research Protocol	Version 2	2016/10/23
Researcher's Checklist for Submission		
Researcher's Commitment Form		2016/08/11
Review Comments/Correspondence	University of Ottawa Correspondence letter	2016/04/11
Review Comments/Correspondence	University of Ottawa Certificate of Ethics Approval	2016/05/19
Supporting Materials	Email Script for Site Investigators to Recruit Participants	
Supporting Materials	Email Script for Permission from Potential Participants to be Contacted	
Supporting Materials	Version 1 - Recruitment Poster	2016/09/01
Supporting Materials	Information Letter for Recruitment of Managers	
Supporting Materials	Confidentiality Agreement for Transcriptionist	
Supporting Materials	Email Script for Recruitment of Municipal Councillors	
Supporting Materials	Focus Group Guide	
Supporting Materials	Email Script for Recruitment of Managers	2016/08/13
Supporting Materials	Document Summary Form	
Supporting Materials	Participant Demographic Profile	

Continuing Review

1. The Board's approval for this study will expire one year from the date of this letter **October 27, 2017**. To ensure continuing approval, submit a Request for Annual Approval to the Board 2-4 weeks prior to this date. If approval is not renewed prior to the anniversary date, the Board will close your file and you must cease all study activities immediately. To reactivate a study, you must submit a new Initial Submission (together with the usual fee) to the REB and await notice of re-approval.

2. Please be sure to notify the Board of any:

- * Proposed changes to the initial submission (i.e., new or amended study documents or supporting materials),
- * Additional information to be provided to study participants,
- * Material designed for advertisement or publication with a view to attracting participants,
- * Serious unexpected adverse reactions experienced by local participants,
- * Unanticipated problems involving risks to participants or others,
- * Sponsor-provided safety information,
- * Additional compensation available to participants,
- * Upcoming audits /inspections by a sponsor or regulatory authority,
- * Premature termination / closure of the study (within 90 days of the event).

3. Approved studies may be subject to internal audit. Should your research be selected for audit, the Board will advise you and indicate any other requests at that time.

Important Instructions and Reminders

1. Submit all correspondence to Ethics Coordinator, Pamela Trenholm at the address listed at the top of this letter (do not send your response to the REB Chair or Co-Chair).

2. Login to the Research Portal; click Applications (Submitted - Post Review), browse through files to locate the study in which you wish to make revisions to; click the Events Button and choose the type of revision you wish to make from the table provided; complete the electronic form and attach document under the attachments tab if required and Click on the Submit button.

3. Be sure to reference the Board's assigned file number, Romeo No. 1021668, on all communications.

4. Highlight all changes on revised documents and remember to update version numbers and/or dates.

Best wishes for a successful study.

Yours very truly,



Andrew Jarvie MBChB FRCA
Co-Chair, NSHA Research Ethics Board

This statement is in lieu of Health Canada's Research Ethics Board Attestation:

- The Research Ethics Board for the Nova Scotia Health Authority operates in accordance with:
- Food and Drug Regulations, Division 5 "Drugs for Clinical Trials Involving Human Subjects"
 - Natural Health Products Regulations, Part 4 "Clinical Trials Involving Human Subjects"
 - Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2)
 - ICH Good Clinical Practice: Consolidated Guideline (ICH-E6)

cc: Lisa Underwood, Director, Research Services

Appendix C: Informed Consent (Public Health Employee)



NSHA Research Ethics Board
Non-Interventional Study Consent Form

Informed Consent Form Non-Interventional Study (Public Health Employee)

STUDY TITLE: Understanding Public Health Nurses Engagement in Addressing Food Insecurity

PRINCIPAL INVESTIGATOR: Shannan MacDonald BScHNU, RN, PhD(c)

SUPERVISING INVESTIGATOR: Dr. Josephine Etowa, RN, PhD
Loyer DaSilva Research Chair in Public Health Nursing,

SUPERVISING INVESTIGATOR: Dr. Patty Williams
Canada Research Chair (Tier 2) in Food Security and Policy Change

SITE INVESTIGATOR:

Christine Johnson, MSc., PDt.
Health Equity Lead, Public Health

1. Introduction

I am invited to participate in the PhD research study *Understanding Public Health Nurses Engagement in Addressing Food Insecurity* conducted by Shannan MacDonald, University of Ottawa, whose research is under the supervision of Dr. Josephine Etowa.

I have been asked to participate because of my experiences and expertise as a public health employee and my understanding of the factors that influence engagement (or not) in efforts to address food insecurity. My perspectives on food insecurity priorities within my public health unit and the factors that influence engagement (or not) in efforts to address food insecurity will be valuable for this research.

Taking part in this study is voluntary. It is up to me to decide whether to be in the study or not. Before I decide, I need to understand what the study is for, what risks I might take and what benefits I might receive. This consent form explains the study.

I will ask the research team to clarify anything I do not understand or would like to know more about. I will make sure all my questions are answered to my satisfaction before deciding whether to participate in this research study.

The researchers will:

- Discuss the study with me
- Answer my questions
- Be available during the study to deal with problems and answer questions

If I decide not to take part or if I leave the study early, my current or future employment status and/or work performance evaluations will not be affected.

2. Why Is This Study Being Conducted?

Despite interest by global leaders to eradicate food insecurity (a limited or uncertain availability to acquire acceptable and nutritious foods in socially acceptable ways) remains a persistent and growing problem in Canada. Nova Scotia is particularly vulnerable to food insecurity with a prevalence rate of 20%, the highest provincial rate in Canada. The inability to meet basic food

requirements compromises individual health and well-being, which can have significant societal consequences. Thus, public health nurses have an obligation and are well positioned to initiate collaborative efforts to address health inequities, such as food insecurity, yet little is known about their role.

The main purpose of this qualitative study is to examine how public health nurses engage in addressing food insecurity and to explore prevailing structures that contribute or constrain their efforts to engage in addressing food insecurity.

This research will contribute new knowledge in an understudied area about the current nature and scope of public health nurses' engagement in collaborative efforts to address food insecurity. New understanding will be gained about the factors influencing engagement in collaborative efforts of public health nurses working within organizational and municipal contexts. The insights gained are expected to inform actionable recommendations for enhanced public health nursing engagement in collaborative efforts to improve food security. Study findings may also inform health equity work through food security.

3. How Long Will I Be in The Study?

Site visits will be arranged with each organization to collect data. It is anticipated that site visits will occur over a one to two-week period.

My participation will consist of participating in a 60-minute face-to-face interview with the principal investigator. If a face-to-face interview is not possible, a telephone interview can be arranged. Once interviews have been completed and preliminary analysis has been conducted, I will be asked to participate in a 1 – 2-hour focus groups discussion.

The entire study is expected to take about 12 months to complete and the results should be known in 18 months.

4. How Many People Will Take Part in This Study?

It is anticipated that about 22 people will participate in this study. Public health nurses, nutritionists, dental hygienists, and their managers will be recruited for the sample from the three public health units within the Nova Scotia Health Authority Eastern Zone: (a) Antigonish Public Health; (b) Guysborough Public Health; and (c) Port Hawkesbury Public Health.

The municipal councillors within each of the case study sites (i.e., Antigonish, Guysborough, and Port Hawkesbury) will also be recruited for the sample.

5. What Will Happen If I Take Part in This Study?

In keeping with the tenets of case study methodology, three data collection methods will be used: in-depth interviews, document analysis, and focus group discussions.

1. As a public health employee, my participation will consist of participating in a 60-minute face-to-face, audio-recorded interview with the principal investigator. The interview will take place at a mutually agreed upon time and place. If a face-to-face interview is not possible, a telephone interview can be arranged. Notes will be taken during the interview to guard against loss of information should the tape recorder fail. In addition, observations of nonverbal communication will be recorded, such as facial expressions or body gestures.
 - I will respond to questions related to:
 - Perceptions and experiences about public health nurses' engagement in addressing food insecurity;
 - How your public health unit takes action for food security;
 - The factors that shape those choices from your perspective; and
 - What food insecurity interventions or programs currently exist at your public health unit.
 - All questions will be asked in English.
2. At the beginning of each interview, I will be asked to provide some background information about myself. This information will help to describe in general terms, the range of people that took part in this study. This will include information about:
 - My length of employment;
 - My length of time worked or volunteered in addressing food insecurity;
 - My education; and
 - Any specialty training about food security and/or food insecurity that I may have received.
3. I may be re-contacted via telephone following my interview if clarification or elaboration is needed.
4. Reviewing a three to five-page Preliminary Report that provides a summary of the integrated results from the three cases. The report will be provided in advance to the focus group discussion. Questions will be provided with the summary report to guide areas for me to consider as I review the findings and interpretations.
5. I will be asked to participate in a 1 – 2-hour, audio-recorded focus group along with all other frontline public health study participants, following the completion of all participants' interviews and following the initial data analysis. An invitation to participate will be given to me two weeks in advance to the focus group discussion. Participants who do not want to be audio-recorded will not be eligible to participate in the focus group discussions.

If I decide to withdraw from the study, I will contact principal investigator by either telephone or email. Once I withdrawal from the study, I am free not to follow any or all of these procedures described above. Data collected in interviews can be removed if I withdrawal from the study. However, I understand that once I have participated in the focus group discussion, data cannot be removed if I decide to withdrawal from the study due to the nature of group conversation.

6. Are There Risks to The Study?

- The participation in this study will entail that I volunteer my personal experiences and perceptions on a contentious issue and social and political repercussions are possible when these views are expressed. I am aware that dissension is possible among my co-

workers and/or stakeholders with whom I work if we have differing perceptions during focus group discussions.

- I may find the interview questions I receive during the course of the study upsetting or distressing. I may not like all of the questions that I will be asked.
- I may feel inconvenienced because my time is not compensated.
- As with all research, there is a chance that confidentiality could be compromised. I understand that the concealment of my identity cannot be guaranteed because participation in a group precludes concealment of my identity and enhances risks for a breach of confidentiality to the information shared in-group. In addition, I understand that while all participants may agree to keep matters discussed by the group in confidence, there is always a risk that the agreement may not be honoured. Thus, highly sensitive information will be shared with the researcher only in private or during individual interview.

I have received assurance from the principal investigator that every effort will be made to minimize these risks including:

- My participation in this study is voluntary. I am under no obligation to participate.
- I am aware that participation in a group precludes concealment of my identity and that focus group participants will be aware of information that I share.
- I may decline to answer any questions, withdraw comments, ask that the audio-recorder be turned off, or withdraw from the study at any time with no effect on my employment status and/or work performance evaluations.
- I will share highly sensitive information with the researcher only in private or during individual interview.
- I am aware that data cannot be removed after participation in focus group discussions if I decide to withdrawal from the study due to the nature of group conversation. Data collected in interviews can be removed if I withdrawal from the study.
- To protect my identity, I will be identified by a research code (e.g., MC 001). The list matching my names and code number will be kept separately in a secure location and will not be disclosed to anyone. Only the principal investigator, and her thesis supervisor, Dr. Josephine Etowa, will have access to codes that can be linked to my identity. The audiotape of my interview and the focus group meetings will be identified only by this research code; my real name will not be connected to them in any way. Although no one can absolutely guarantee confidentiality, using a code number makes the chance much smaller that someone other than the principal investigator and thesis supervisor will ever be able to link your name.
- Care will be taken to be conscientious of the time taken for interviews and telephone calls.

7. Are There Benefits of Participating in This Study?

There is no guarantee that I will receive any benefits from this research. However, I may develop a heightened awareness of issues that have shaped the public health nursing practice environment where I am employed, which may lead to individual or collective future action. In addition, I may gain a sense of satisfaction in contributing to the generation of knowledge in an

understudied area related to the nature and scope of public health nurses' engagement in addressing food insecurity. The insights gained are expected to inform actionable recommendations for enhanced public health nursing engagement in collaborative efforts for food security and enhanced health equity through food security strategies.

8. What Happens at the End of the Study?

It is anticipated that the results of this study will be published and or presented in a variety of forums. In any publication and/or presentation, information will be provided in such a way that I cannot be identified, except with my express permission.

Upon completion of the study, all audio and electronic files will be kept for 7 years, as required by the research committee and the NSHA Research Ethics Board. All data will be secured in a locked cabinet in Dr. Josephine Etowa's office at the University of Ottawa. At that time, all hard copies of information containing study data will be shredded and electronic files permanently deleted using "Eraser," an advanced security tool for Windows that allows one to completely remove sensitive data from computer hard drive by overwriting it several times with carefully selected patterns. E-files on USB drive will be physically destroyed.

9. What Are My Responsibilities?

As a study participant I will be expected to:

- Follow the directions of the research team;
- Report any problems that I experience that I think might be related to participating in the study.

10. Can My Participation in this Study End Early?

Yes. If I chose to participate and later change my mind, I can say no and stop the research at any time. If I wish to withdraw my consent, I will inform the research team by either telephone or email. If I choose to withdraw from this study, my decision will have no effect on my current or future employment status and/or work performance evaluations. Data collected in interviews can be removed if I withdrawal from the study. Data from focus groups discussion cannot be removed if I withdrawal from the study. No new information about me will be collected without my permission.

Also, the Nova Scotia Health Authority Research Ethics Board and the principal investigator have the right to stop patient recruitment or cancel the study at any time.

Lastly, the principal investigator, Shannan MacDonald, may decide to remove me from the study without my consent for either of the following reasons:

- I do not follow the directions of the research team;
- I am experiencing emotional distress because of the questions being asked.

If I am withdrawn from this study, the principal investigator, Shannan MacDonald, will discuss the reasons with me. If needed, the principal investigator will provide me with the appropriate referral resources.

11. Will It Cost Me Anything?

No. Participation in this study will not cost me any monetary amount.

12. What About My Privacy and Confidentiality?

Protecting my privacy is an important part of this study. Every effort to protect my privacy will be made. When the results of this study are presented to the public, nobody will be able to tell that I was in the study.

However, I understand the concealment of my identity cannot be guaranteed because participation in a group precludes concealment of my identity and enhances risks for a breach of confidentiality to the information shared in-group. In addition, I understand that while all participants may agree to keep matters discussed by the group in confidence, there is always a risk that the agreement may not be honoured. Thus, highly sensitive information will be shared with the researcher only in private or during individual interview.

Steps will be taken to protect my identity:

- All unique identifiers including personal names will be removed from quotes. My name will be replaced with a code (e.g., PHN 001) so that quotes cannot be linked to participants or public health unit. The list matching my names and code number will be kept separately in a secure location and will not be disclosed to anyone. Only the principal investigator and the thesis supervisor, Dr. Josephine Etowa, will have access to codes that can be linked to my identity.
- The audiotape of my interview meetings will be identified only by this code; my real name will not be connected to them in any way.
- Interviews will be conducted in a place of privacy.
- The use of anonymized and aggregated results in reports and publications.

Use of my study information

Any study data about me that is sent outside of the Nova Scotia Health Authority will have a research code (e.g., PHN 001) and will not contain my name or address, or any information that directly identifies me.

De-identified study data may be transferred to:

- Thesis committee at the University of Ottawa.
- Transcriptionist hired to transcribe audiotapes into text.

Study data that is sent outside of the Nova Scotia Health Authority will be used for the research purposes explained in this consent form.

Although the thesis committee members (other than the principal investigator) or transcriptionist will not know my name, they will keep the information they see or receive about me confidential, to the extent permitted by applicable laws. Information sent to the thesis committee members or transcriptionist will be password protected. Transcriptionists will sign a confidentiality agreement and he/she will destroy all electronic files upon completion of her work on this project.

In any reports coming from this research all information that could be used to identify me (e.g., employer, colleagues, place of work and so on) will be substituted with fictional or generic names. Identifying demographic features will not be described or will be disguised to provide confidentiality. The results of this study may be described in oral and written presentations and may be published in professional journals. However, at all times the only aggregated results will be reported and no personal identifiers will be used.

All raw data (transcriptions and audio-tapes) will be kept in a locked cabinet in Dr. Josephine Etowa's office at the University of Ottawa for a period of 7 years following completion of this study at which time will be destroyed according to NSHA policy. All paper documents will be shredded, audio-files erased, and all confidential computer data files erased.

I understand that the REB and people working for or with the REB may contact me personally for quality assurance purposes.

13. Declaration of Financial Interest

This study is unfunded. The principal investigator has no vested financial interest in conducting this study.

14. What About Questions or Problems?

If I have any further questions about the study, I may contact the principal investigator or her supervising and/or site investigators, who are in charge of the study.

Principal Investigator: Shannan MacDonald

Supervising Investigator: Dr: Josephine Etowa

Supervising Investigator: Dr. Patty Williams

Site Investigator: Christine Johnson

If I have any questions regarding the ethical conduct of this study, I may contact:

The Protocol Officer for Ethics in Research

Or

The Nova Scotia Health Authority Research Ethics Board Manager

15. What Are My Rights?

- I have the right to all information that could help me make a decision about participating in this study.
- I have the right to ask questions about this study and my rights as a research participant, and to have them answered to my satisfaction before I make any decision.
- I have the right to ask questions and to receive answers throughout this study.
- I have the right to access, review, and request changes to my study data.
- I have the right to be informed of the results of this study once the entire study is complete.

If I have any questions about my rights as a research participant, contact Patient Relations at the toll-free number 1-855-799-0990 or healthcareexperience@nshealth.ca

In the next part I will be asked if I agree (consent) to join this study. If the answer is "yes," I will sign the form.



Research Ethics Board

16. Consent Form Signature Page

I have reviewed all of the information in this consent form related to the study called:

Understanding Public Health Nurses Engagement in Addressing Food Insecurity

I have been given the opportunity to discuss this study. All of my questions have been answered to my satisfaction.

This signature on this consent form means that I agree to take part in this study. I understand that I am free to withdraw at any time without affecting my employment status and/or work performance evaluations.

Signature of Participant

Name (Printed)

____ / ____ / ____
Year / Month / Day*

Signature of Investigator

Name (Printed)

____ / ____ / ____
Year / Month / Day*

I will be given a signed copy of this consent form.

Appendix D: Informed Consent (Municipal Government Official)



Research Ethics Board

NSHA Research Ethics Board
Non-Interventional Study Consent Form**Informed Consent Form Non-Interventional Study (Municipal Government Official)**

STUDY TITLE: Understanding Public Health Nurses Engagement in Addressing Food Insecurity

PRINCIPAL INVESTIGATOR: Shannan MacDonald BScHNU, RN, PhD(c)

SUPERVISING INVESTIGATOR: Dr. Josephine Etowa, RN, PhD
Loyer DaSilva Research Chair in Public Health Nursing,

SUPERVISING INVESTIGATOR: Dr. Patty Williams
Canada Research Chair (Tier 2) in Food Security and Policy Change

SITE INVESTIGATOR:

Christine Johnson, MSc., PDt.
Health Equity Lead, Public Health

1. Introduction

I am invited to participate in the PhD research study *Understanding Public Health Nurses Engagement in Addressing Food Insecurity* conducted by Shannan MacDonald, University of Ottawa, whose research is under the supervision of Dr. Josephine Etowa.

I have been asked to participate because I am responsible for funding and governing public health, water supply, urban and regional planning, housing, transportation, and social services, all of which are directly or indirectly relevant to food security sustainability in my region. My perspectives on food insecurity priorities in my region will be valuable for this research.

Taking part in this study is voluntary. It is up to me to decide whether to be in the study or not. Before I decide, I need to understand what the study is for, what risks I might take and what benefits I might receive. This consent form explains the study.

I will ask the research team to clarify anything I do not understand or would like to know more about. I will make sure all my questions are answered to my satisfaction before deciding whether to participate in this research study.

The researchers will:

- Discuss the study with me
- Answer my questions
- Be available during the study to deal with problems and answer questions

If I decide not to take part or if I leave the study early, my current or future employment status and/or work performance evaluations will not be affected.

2. Why Is This Study Being Conducted?

Despite interest by global leaders to eradicate food insecurity (a limited or uncertain availability to acquire acceptable and nutritious foods in socially acceptable ways) remains a persistent and growing problem in Canada. Nova Scotia is particularly vulnerable to food insecurity with a prevalence rate of 20%, the highest provincial rate in Canada. The inability to meet basic food requirements compromises individual health and well-being, which can have significant societal

consequences. Thus, public health nurses have an obligation and are well positioned to initiate collaborative efforts to address health inequities, such as food insecurity, yet little is known about their role.

The main purpose of this qualitative study is to examine how public health nurses engage in addressing food insecurity and to explore prevailing structures that contribute or constrain their efforts to engage in addressing food insecurity.

This research will contribute new knowledge in an understudied area about the current nature and scope of public health nurses' engagement in collaborative efforts to address food insecurity. New understanding will be gained about the factors influencing engagement in collaborative efforts of public health nurses working within organizational and municipal contexts. The insights gained are expected to inform actionable recommendations for enhanced public health nursing engagement in collaborative efforts to improve food security. Study findings may also inform health equity work through food security.

3. How Long Will I Be in The Study?

My participation will consist of participating in a 60-minute face-to-face interview with the principal investigator. If a face-to-face interview is not possible, a telephone interview can be arranged. Once interviews have been completed and preliminary analysis has been conducted, I will be asked to participate in a 1 – 2-hour focus groups discussion.

The entire study is expected to take about 12 months to complete and the results should be known in 18 months.

4. How Many People Will Take Part in This Study?

It is anticipated that about 22 people will participate in this study. Public health nurses, nutritionists, dental hygienists, and their managers will be recruited for the sample from the three public health units within the Nova Scotia Health Authority Eastern Zone: (a) Antigonish Public Health; (b) Guysborough Public Health; and (c) Port Hawkesbury Public Health.

The municipal councillors within each of the case study sites (i.e., Antigonish, Guysborough, and Port Hawkesbury) will also be recruited for the sample.

5. What Will Happen If I Take Part in This Study?

In keeping with the tenets of case study methodology, three data collection methods will be used: in-depth interviews, document analysis, and focus group discussions.

1. As a municipal councillor, my participation will consist of participating in a 60-minute face-to-face, audio-recorded interview with the principal investigator. The interview will take place at a mutually agreed upon time and place. If a face-to-face interview is not possible, a telephone interview can be arranged. Notes will be taken during the interview to guard

against loss of information should the tape recorder fail. In addition, observations of nonverbal communication will be recorded, such as facial expressions or body gestures.

- I will respond to questions related to my perspectives of:
 - The priority of food insecurity in my region;
 - The amount of funding allocated to addressing food insecurity in my region;
 - What food insecurity interventions or programs currently exist in my region; and
 - The key players in each sector in Nova Scotia that are involved in or have influence on the food insecurity interventions or programs.
 - I will be asked about factors that shape the level of priority and current funding and interventions available to address food insecurity in the region from my perspective.
- All questions will be asked in English.
- 2. At the beginning of each interview, I will be asked to provide some background information about myself. This information will help to describe in general terms, the range of people that took part in this study. This will include information about:
 - My length of employment;
 - My length of time worked or volunteered in addressing food insecurity;
 - My education; and
 - Any specialty training about food security and/or food insecurity that I may have received.
- 3. I may be re-contacted via telephone following my interview if clarification or elaboration is needed.
- 4. Reviewing a three to five-page Preliminary Report that provides a summary of the integrated results from the three cases. The report will be provided in advance to the focus group discussion. Questions will be provided with the summary report to guide areas for me to consider as I review the findings and interpretations.
- 5. I will be asked to participate in a 1–2-hour, audio-recorded focus group along with other municipal councillors and public health managers in administrative roles, following the completion of all participants' interviews and following the initial data analysis. An invitation to participate will be given to me two weeks in advance to the focus group discussion. Participants who do not want to be audio-recorded will not be eligible to participate in the focus group discussions.

If I decide to withdraw from the study, I will contact principal investigator by either telephone or email. Once I withdrawal from the study, I am free not to follow any or all of these procedures described above. Data collected in interviews can be removed if I withdrawal from the study. However, I understand that once I have participated in the focus group discussion, data cannot be removed if I decide to withdrawal from the study due to the nature of group conversation.

6. Are There Risks to The Study?

- The participation in this study will entail that I volunteer my personal experiences and perceptions on a contentious issue and social and political repercussions are possible when these views are expressed. I am aware that dissension is possible among my co-workers and/or stakeholders with whom I work if we have differing perceptions.

- I may find the interview questions I receive during the course of the study upsetting or distressing. I may not like all of the questions that I will be asked.
- I may feel inconvenienced because my time is not compensated.
- As with all research, there is a chance that confidentiality could be compromised. I understand that the concealment of my identity cannot be guaranteed because of the small number of municipal councillors participating in the study. I understand that the participation in a group precludes concealment of my identity and enhances risks for a breach of confidentiality to the information shared in-group. In addition, I understand that while all participants may agree to keep matters discussed by the group in confidence, there is always a risk that the agreement may not be honoured. Thus, highly sensitive information will be shared with the researcher only in private or during individual interview.

I have received assurance from the principal investigator that every effort will be made to minimize these risks including:

- My participation in this study is voluntary. I am under no obligation to participate.
- I am aware that participation in a group precludes concealment of my identity and that focus group participants will be aware of information that I share.
- I may decline to answer any questions, withdraw comments, ask that the audio-recorder be turned off, or withdraw from the study at any time with no effect on my employment status and/or work performance evaluations.
- I will share highly sensitive information with the researcher only in private or during individual interview.
- I am aware that data cannot be removed after participation in focus group discussions if I decide to withdrawal from the study due to the nature of group conversation. Data collected in interviews can be removed if I withdrawal from the study.
- To protect my identity, I will be identified by a research code (e.g., MC 001). The list matching my names and code number will be kept separately in a secure location and will not be disclosed to anyone. Only the principal investigator, and her thesis supervisor, Dr. Josephine Etowa, will have access to codes that can be linked to my identity. The audiotape of my interview and the focus group meetings will be identified only by this research code; my real name will not be connected to them in any way. Although no one can absolutely guarantee confidentiality, using a code number makes the chance much smaller that someone other than the principal investigator and thesis supervisor will ever be able to link your name.
- Care will be taken to be conscientious of the time taken for interviews and telephone calls.

7. Are There Benefits of Participating in This Study?

There is no guarantee that I will receive any benefits from this research. However, I may develop a heightened awareness of issues that have shaped the public health nursing practice environment within the Eastern zone where I am employed, which may lead to individual or collective future action. In addition, I may gain a sense of satisfaction in contributing to the generation of knowledge in an understudied area related to the nature and scope of public health nurses'

engagement in addressing food insecurity. The insights gained are expected to inform actionable recommendations for enhanced public health nursing engagement in collaborative efforts for food security and enhanced health equity through food security strategies.

8. What Happens at the End of the Study?

It is anticipated that the results of this study will be published and or presented in a variety of forums. In any publication and/or presentation, information will be provided in such a way that I cannot be identified, except with my express permission.

Upon completion of the study, all audio and electronic files will be kept for 7 years, as required by the research committee and the NSHA Research Ethics Board. All data will be secured in a locked cabinet in Dr. Josephine Etowa's office at the University of Ottawa. At that time, all hard copies of information containing study data will be shredded and electronic files permanently deleted using "Eraser," an advanced security tool for Windows that allows one to completely remove sensitive data from computer hard drive by overwriting it several times with carefully selected patterns. E-files on USB drive will be physically destroyed.

9. What Are My Responsibilities?

As a study participant I will be expected to:

- Follow the directions of the research team;
- Report any problems that I experience that I think might be related to participating in the study.

10. Can My Participation in this Study End Early?

Yes. If I chose to participate and later change my mind, I can say no and stop the research at any time. If I wish to withdraw my consent, I will inform the research team by either telephone or email. If I choose to withdraw from this study, my decision will have no effect on my current or future employment status and/or work performance evaluations. Data collected in interviews can be removed if I withdraw from the study. No new information about me will be collected without my permission.

Also, the Nova Scotia Health Authority Research Ethics Board and the principal investigator have the right to stop recruitment or cancel the study at any time.

Lastly, the principal investigator, Shannan MacDonald, may decide to remove me from the study without my consent for either of the following reasons:

- I do not follow the directions of the research team;
- I am experiencing emotional distress because of the questions being asked.

If I am withdrawn from this study, Shannan MacDonald will discuss the reasons with me. If needed, Shannan MacDonald will provide me with the appropriate referral resources.

11. Will It Cost Me Anything?

No. Participation in this study will not cost me any monetary amount.

12. What About My Privacy and Confidentiality?

Protecting my privacy is an important part of this study. Every effort to protect my privacy will be made. When the results of this study are presented to the public, nobody will be able to tell that I was in the study.

However, I understand the concealment of my identity cannot be guaranteed because of the small number of municipal councillors participating in this study.

Steps will be taken to protect my identity:

- All unique identifiers including personal names will be removed from quotes. My name will be replaced with a code (e.g., MC 001) so that quotes cannot be linked to participants or municipal region. The list matching my names and code number will be kept separately in a secure location and will not be disclosed to anyone. Only the principal investigator and the thesis supervisor, Dr. Josephine Etowa, will have access to codes that can be linked to my identity.
- The audiotape of my interview meetings will be identified only by this code; my real name will not be connected to them in any way.
- Interviews will be conducted in a place of privacy.
- The use of anonymized and aggregated results in reports and publications.

Use of my study information

Any study data about me that is sent outside of the Nova Scotia Health Authority will have a research code (e.g., MC 001) and will not contain my name or address, or any information that directly identifies me.

De-identified study data may be transferred to:

- Thesis committee at the University of Ottawa.
- Transcriptionist hired to transcribe audiotapes into text.

Study data that is sent outside of the Nova Scotia Health Authority will be used for the research purposes explained in this consent form.

Although the thesis committee members (other than the principal investigator) or transcriptionist will not know my name, they will keep the information they see or receive about me confidential, to the extent permitted by applicable laws. Information sent to the thesis committee members or transcriptionist will be password protected. Transcriptionists will sign a confidentiality agreement and he/she will destroy all electronic files upon completion of her work on this project.

In any reports coming from this research all information that could be used to identify me (e.g., employer, colleagues, place of work and so on) will be substituted with fictional or generic names. Identifying demographic features will not be described or will be disguised to provide confidentiality. The results of this study may be described in oral and written presentations and may be published in professional journals. However, at all times the only aggregated results will be reported and no personal identifiers will be used.

All raw data (transcriptions and audio-tapes) will be kept in a locked cabinet in Dr. Josephine Etowa's office at the University of Ottawa for a period of 7 years following completion of this study at which time will be destroyed according to NSHA policy. All paper documents will be shredded, audio-files erased, and all confidential computer data files erased.

I understand that the REB and people working for or with the REB may contact me personally for quality assurance purposes.

13. Declaration of Financial Interest

This study is unfunded. The principal investigator has no vested financial interest in conducting this study.

14. What About Questions or Problems?

If I have any further questions about the study, I may contact the principal investigator or her supervising and/or site investigators, who are in charge of the study.

Principal Investigator: Shannan MacDonald

Supervising Investigator: Dr. Josephine Etowa

Supervising Investigator: Dr. Patty Williams

Site Investigator: Christine Johnson

If I have any questions regarding the ethical conduct of this study, I may contact:

The Protocol Officer for Ethics in Research

Or

The Nova Scotia Health Authority Research Ethics Board Manager

15. What Are My Rights?

- I have the right to all information that could help me make a decision about participating in this study.
- I have the right to ask questions about this study and my rights as a research participant, and to have them answered to my satisfaction before I make any decision.
- I have the right to ask questions and to receive answers throughout this study.
- I have the right to access, review, and request changes to my study data.
- I have the right to be informed of the results of this study once the entire study is complete.

If I have any questions about my rights as a research participant, contact Patient Relations at the toll-free number 1-855-799-0990 or healthcareexperience@nshealth.ca

In the next part I will be asked if I agree (consent) to join this study. If the answer is “yes”, I will sign the form.



Research Ethics Board

16. Consent Form Signature Page

I have reviewed all of the information in this consent form related to the study called:

Understanding Public Health Nurses Engagement in Addressing Food Insecurity

I have been given the opportunity to discuss this study. All of my questions have been answered to my satisfaction.

This signature on this consent form means that I agree to take part in this study. I understand that I am free to withdraw at any time without affecting my employment status and/or work performance evaluations.

Signature of Participant _____
Name (Printed) _____ / _____ / _____
Year / Month / Day*

Signature of Investigator _____
Name (Printed) _____ / _____ / _____
Year / Month / Day*

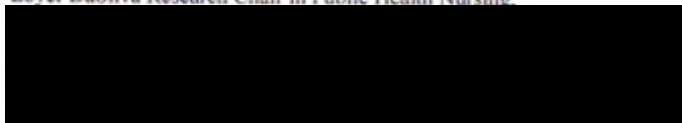
I will be given a signed copy of this consent form.

Appendix E: Confidentiality Agreement for Transcriptionist

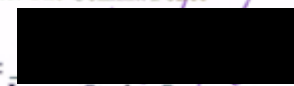


uOttawa

Université d'Ottawa · University of Ottawa

Faculté des sciences de la santé
École des sciences infirmièresFaculty of Health Sciences
School of Nursing**Study Title:** Understanding Public Health Nurses Engagement in Addressing Food Insecurity**Investigator:** Shannan MacDonald BScHNU, RN, PhD(c)**Thesis Supervisor:** Dr. Josephine Etowa, RN, PhD,
Lover DaSilva Research Chair in Public Health Nursing

1. I will not use the data for purpose(s) other than that described in the project contract.
2. I will not release the data to anyone other than Shannan MacDonald.
3. I will keep the data (in paper or electronic form) in a locked or password secured location to which only I will have access.
4. I will, upon completion of project, delete all the data on my computer once I have completed all my work on this research project.

Print Name: The Comma Poljce**Signature:**

Lauren Starko, Owner

Position: Transcriptionist**Date:** January 10, 2017

Terms of Project Contract:**Outcome:**

1. Agree to the terms of the confidentiality agreement.
2. Transcribe oral data to typed text.
3. Provide Shannan MacDonald with the transcribed text.

Guidelines for Interviews:

1. Identify what the interviewer says by using I: (interviewer)
2. Identify the person answering the questions by using the audio file identifier (e.g., N01-01).
3. Double space between each text segment.
4. Do not use quotation marks.
5. Number the pages.
6. The transcript should look like the example below.

Length of Interview: 60 minutes

I: Tell me about...

N01-01: I think...

I: So, you...

N01-01: I guess so...

Focus of the transcript

The main focus of the transcript should be on what the interviewees say. You may need to re-listen to tape segments. However, do not spend too much time determining exactly what was said by the interviewer. A general sense of what the interviewer asks will suffice. It is more important to spend time and writing down the exact wording of what the interviewee says.

Identifiers

If the interview or the interviewer states an identifier (e.g., person's name, and organizational position, and a place) put the identifier in brackets in capital letters [SHANNAN]. The PhD student investigator will remove these identifiers.

Sections or Terms Unable to Hear or Understand

If you cannot hear or understand what is said please:

1. Make an educated guess if possible. Point out that you are making a guess by putting the segment in text of brackets and capital letters [SOUNDS LIKE...] [ABBREVIATION, SOUNDS LIKE: CNA].
1. Write down the reason you cannot make something out if you are unable to make a guess for example:

[INAUDIBLE] [BAD TAPE QUALITY] [BACKGROUND NOISE FOR ABOUT 30 SECONDS, INAUDIBLE] [EVERYBODY TALKING AT ONCE, VERY EXCITED, MUCH LAUGHING, CANNOT MAKE OUT WHAT IS BEING SAID].

Tone of Voice and Emotional Content

If you think the emotional content is important to convey the meaning then put what is ‘heard’ in brackets in capital letters. For example:

[LAUGHTER], [QUIET VOICE], [LONG PAUSE], [SPEAKING VERY QUICKLY], [SOUNDING TEARFUL], [SOUNDS SARCASTIC], [SOUNDS UNSURE], [HESITANT].

Punctuation

Use punctuation to reflect what you are hearing. For example, use a comma when people pause in mid-sentence, a question mark when they are making a statement but raise their voice, and a period when the person is finishing a sentence.

Fillers

Please do not transcribe oral ‘whiskers’ -for example “huhms”; “eh” and other “fill” words.

Information about the Project

I will provide a copy of the Interview Guide to help give you an idea about the general nature of the project. Since this is a qualitative study, the questions and probes are not always asked exactly as phrased, or in the same order. There may be questions that are skipped, and other questions that are asked by the interviewer.

If you have questions please contact Shannan MacDonald for clarification or assistance

Appendix F: Information Letter for Recruitment of Public Health Manager



Study Title: Understanding Public Health Nurses Engagement in Addressing Food Insecurity

Principal Investigator: Shannan MacDonald BScHNU, RN, PhD(c)

Thesis Supervisor: Dr. Josephine Etowa, RN, PhD,
Loyer DaSilva Research Chair in Public Health Nursing,

Dear [Public Health Manager]:

My name is Shannan MacDonald and I am a doctoral student in nursing at the University of Ottawa, Ontario. I am seeking permission for your organization to participate in a research study. Public health units selected for participation are based on different organizational structures, municipal location, and current degree of public health nurse involvement in food insecurity determined from a pilot project.

What is the study about?

The main purpose of this qualitative study is to examine how public health nurses engage in addressing food insecurity and to explore prevailing structures that contribute or constrain their efforts to engage in addressing food insecurity. This research will contribute new knowledge in an understudied area about the current nature and scope of public health nurses' engagement in collaborative efforts to address food insecurity. New understanding will be gained about the factors influencing engagement in collaborative efforts of public health nurses working within organizational and municipal contexts. The insights gained are expected to inform actionable recommendations for enhanced public health nursing engagement in collaborative efforts for food security as a strategy to increase food security in Canada.

Study design

This is a case study design with three public health units. Each unit will be studied separately and then the findings from each unit will be compared to identify similarities and differences in factors that influence

the public health nurses' role in food insecurity. Data will be collected through interviews, document review, and focus group discussions.

What will your organization be asked to do?

If you agree to participate, you will be asked to:

1. Letter of Support

- Provide a letter of support about the willingness of your public health unit to participate in the study.

2. Permission to be on site

- Give permission for the doctoral student, Shannan MacDonald to be on the premises of your unit to conduct research at times convenient to you and your staff. It is anticipated that a one to two-week period of concentrated time will be required to conduct interviews and review documents.

3. Permission Related to Staff

- Give permission for Shannan MacDonald to invite eligible staff who meet the following criteria: (a) are currently employed at the selected public health unit; (b) have an understanding of the factors that influence engagement in food insecurity; (c) has had at least one previous experience (positive and/or negative) in engaging in food insecurity; and (d) speak and read English.
- Give permission for interviews to occur during the organization's working hours.

4. Permission Related to Documents

- Assist with the identification and access to organization documents for Shannan MacDonald to review that meet the following criteria: (a) documentation pertaining to public health nursing practice within the case study site including: job descriptions, policy documents (e.g. for decisions making, position statements regarding health inequities, such as food insecurity), strategic plans, annual reports, and meeting minutes; (b) dated between 2010 and 2016.

What are the risks?

- Food insecurity is a contentious issue that arises in socio-political contexts and social and political repercussions are possible for individuals and/or organizations when views are expressed. Dissension is possible among co-workers and/or stakeholders with whom your organizations' work.
- Participation in a group precludes concealment of identities and focus group participants will be aware of information shared.
- Shannan MacDonald's presence may cause a distraction at the organization's workplace.
- Participants' time is not compensated.

How will risks be mitigated?

- Your participation in this research is voluntary.
- Participants will be informed that they can decline to answer any questions, withdraw comments, ask that the audio-recorder be turned off, or withdraw from the study at any time. Participants will be notified that data collected in focus group discussions will not be able to be removed due to the nature of group conversation. Data collected in interviews can be removed if you withdrawal from the study.
- Steps will be taken to protect participants' confidentiality.

- Care will be taken to be conscientious of the time taken for interviews and telephone calls.
- Care will be taken to minimize disruption to the public health unit's workplace.

What are the Potential Benefits?

There are no known direct personal benefits that participants will derive as a result of taking part in the study. However, some participants may develop a heightened awareness of issues that have shaped the nursing practice environment where they are employed, which may lead to individual or collective future action. In addition, some participants may gain a sense of satisfaction in contributing to the generation of nursing knowledge in an understudied area related to the nature and scope of public health nurses' engagement in food insecurity. The insights gained are expected to inform actionable recommendations for enhanced public health nursing engagement in efforts for food security and enhanced health equity through food security strategies.

What happens when the research study stops?

This study is being undertaken as part of a research degree. Each public health unit will get feedback on the themes emerging and it is anticipated that the research will be reported through conference presentations and publication in professional journals. Research results will not be available until at least eighteen months after the study stops.

There are no plans to use the information collected for this study other than what is explained in this form. The researcher may wish to use this information in future studies on related topics, or for teaching purposes. I will ask for ethics approval if I plan to use the data for future studies. Your name will be kept strictly private in any of these situations.

Confidentiality and Anonymity

Your public health units name will not be kept anonymous in research reports or publications. The identity of participants from your organization cannot be guaranteed (because of the small number of staff in your unit). Steps will be taken to protect the identity of the staff. All participants will be referred to by a code that will be assigned to them (e.g., PHN 001). The list matching the names and code numbers will be kept separately in a locked cabinet. Only the student investigator, Shannan MacDonald and her thesis supervisor, Dr. Josephine Etowa will have access to codes that can be linked to participant identities. The audiotape of interviews and the focus group meetings will be identified only by this research code; real names will not be connected to them in any way. Someone will be hired to transcribe the tapes into text. Although this individual will not know names, he or she will sign a confidentiality agreement and she will destroy all electronic files upon completion of her work on this project. In any reports coming from this research all information that could be used to identify participants (e.g., employer, colleagues, clients/patients, place of work and so on) will be substituted with fictional or generic names. Identifying demographic features will not be described or will be disguised to provide confidentiality. The results of this study may be described in oral and written presentations and may be published in professional journals. However, at all times the only aggregated and anonymized results will be reported and no personal identifiers will be used.

Conservation of Data

All data collected will be kept in a secure manner. During the conduct of the study

- All raw data will be kept in a private office in a locked cabinet of the doctoral student's home or in a locked brief case.
- All electronic data will be stored on a password-protected computer. In addition, all files will require a password to be opened.

Upon completion of the study:

- All raw data (transcriptions and audio-tapes) will be secured in a locked cabinet in Dr. Josephine Etowa's office at the University of Ottawa for a period of 5 years following completion of this

research [DATE]. At that time, all paper documents will be shredded, audio-files erased, and all confidential computer data files erased.

Additional Information:

The plan for this study has been assessed for its adherence to ethical rules and approved by the University of Ottawa Research Ethics Board (REB) and the Nova Scotia Health Authority REB.

If I have any further questions about the study, I may contact the student investigator 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

Sincerely,

Shannan MacDonald BScHNU, RN, PhD(c)

Appendix G: Email Script for Recruitment of Manager

Subject: Request for participation in research study *Understanding Public Health Engagement in Addressing Food Insecurity*

Dear [Name],

I am writing to request your participation in this PhD research, which has the main aim to examine how public health nurses engage in addressing food insecurity and to explore prevailing structures that contribute or constrain public health nurses' efforts to engage in addressing food insecurity. This research will help fill a knowledge gap about how public health nurses are engaging in addressing food insecurity and uncovering the prevailing structures influencing public health nurses in order to strengthen engagement in efforts to increase food security in Canada.

In addition to public health nurses who have been working towards food security or have an understanding of the factors that influence engagement in food insecurity other public health disciplines (e.g., health educators, nutritionists, dental hygienists, epidemiologists), and their managers will also be recruited for the sample. As a leader at [PUBLIC HEALTH UNIT], your perspectives are important and will be most valuable to incorporate in this study.

I thought you might be an excellent person to contact to see if you had any suggestions for potential people in the [PUBLIC HEALTH UNIT] that potentially could participate in this project due to your expertise in the area of my project. Please find attached a letter that will provide you with further information about the project and what the involvement would entail.

If you have any questions regarding this project, or would like additional information, please do not hesitate to contact me at: or by email at:


I very much look forward to hearing from you.

Yours Sincerely,

Shannan MacDonald BScHNU, RN, PhD(c)

Appendix H: Letter of Organizational Support & Participation

9028637476 902-6254091	ICS Public Health Port Hawkesbury	09:52:48 a.m. 06-13-2016 09:39:00 06-13-2016	2 / 2 2 / 2
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 nova scotia health authority

Nova Scotia Health Authority Research Ethics Board
Centre for Clinical Research, Room 118
5790 University Ave., Halifax, NS B3H 1V7
Phone: 473-2128 Fax: 473-6820

Letter of Support & Participation for Site Investigators at Collaborating Institutions

Research Study			
Title of Protocol	Understanding Public Health Nurses Engagement in Addressing Food Insecurity		

Site Investigator			
Name	Christine Johnson		
Phone No.	902-867 4500 ext 4810	Fax No.	902-863-7478
Email Address	christine.johnson@nshealth.ca		
Mailing Address	Public Health, 23 Bay Street Antigonish, 2 nd floor Martha Center, St. J Marthe's Hospital		

Participating Institution			
Institution Name	Public Health - Guysborough, Antigonish and Richmond Counties	Zone:	Eastern
Department / Division / Program / Service	Nursing, Nutrition, Dental Hygiene		

As Site Investigator:

I will personally oversee the conduct of this study at this institution.

I will conduct the study in accordance with the REB-approved protocol, and all applicable standards including, REB requirements, institutional policies and procedures, Nova Scotia's Personal Health Information Act (PHIA) and Personal Information International Disclosure Protection Act (PIIDPA), the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2) and the Belmont Report.

I confirm that my institution is aware of and fully supports the proposed research study.

I confirm that my department / division / program / service is aware of and fully supports the proposed research study.

Signature: Christine Johnson Date: 2016/06/13
(Site Investigator)

Signature: [Redacted] Date: 2016,06,13
(Institutional Sign Off (e.g. VP, Dept. Head))

Name (print): [Redacted] Position: Manager, PHS - Eastern Zone

Page 1 of 1 REB Version: 2016/04/01

Appendix I: Letter of Support from Principal Investigator's Department



Research Ethics Board

Nova Scotia Health Authority Research Ethics Board
 Centre for Clinical Research, Room 118
 5790 University Ave., Halifax, NS B3H 1V7
 Phone: 473-2126 Fax: 473-5620

Letter of Support from the Principal Investigator's Department / Division / Program / Service

Required for all research studies.

If the PI is associated with the Nova Scotia Health Authority (as per Section A1 of the Ethics Approval Submission Form) this letter is to be signed by the head of the PI's department, division, program or service.

If the PI is not associated with Nova Scotia Health Authority, this letter is to be signed by the head of the PI's respective institution's department, division, program or service.

Research Study	
Title of Protocol	Understanding Public Health Nurses Engagement in Addressing Food Insecurity

Principal Investigator (PI)	
Name	Shannan MacDonald

Head of Principal Investigator's Department / Division / Program / Service	
Name	Josephine Etowa
Position	Full Professor
Department / Division / Program / Service	Faculty of Health Sciences, School of Nursing
Institution / Organization	University of Ottawa

I confirm that:

- Support:** My department / division / program / service has reviewed and fully supports the proposed research study.
- Qualifications:** The principal investigator is qualified by education, training and experience to assume responsibility for the proper conduct of this research.
- Resources:** Resources (including space, equipment, staff and funding) are adequate for this study.

Signature:

(head of PI's dept / division / program / service)

Date:

June 3/2016

(yyyy/mm/dd)

Appendix J: Letter of Researcher's Commitments: Supervising Investigator



Research Ethics Board

Nova Scotia Health Authority Research Ethics Board
 Centre for Clinical Research, Room 118
 5750 University Ave., Halifax, NS B3H 1V7
 Phone: 473-2126 Fax: 473-5620

Researcher's Commitments: Supervising Investigator

Applies only to non-interventional studies. Required if the PI is a trainee and/or is not a NSHA staff member.

Research Study	
Title of Protocol	Understanding Public Health Nurses Engagement in Addressing Food Insecurity

Principal Investigator (PI)	
Name	Shannan MacDonald

Supervising Investigator (SI)	
Name	Patty Williams

I commit:

- To comply with any terms and conditions imposed by the Nova Scotia Health Authority Research Ethics Board (NSHA REB);
- To comply with any terms and conditions imposed by the Nova Scotia Health Authority (the 'custodian');
- To complete required training on privacy and confidentiality (mandatory for Nova Scotia Health Authority staff, physicians and learners) and sign the pledge of confidentiality before accessing personal health information;
- To use personal health information only for purposes outlined in the Ethics Approval Submission Form (the 'research plan') approved by the REB;
- To limit the use of personal health information to the minimum amount necessary and to view the information in the most de-identified form possible;
- Not to attempt to identify or contact individuals without their prior consent, unless otherwise authorized by the REB;
- Not to publish information in a form where it is reasonably foreseeable in the circumstances that it could be utilized, either alone or with other information, to identify an individual, except with the individual's express consent;
- To allow the Nova Scotia Health Authority and the REB to access or inspect the research premises to confirm that the research complies with the terms and conditions of Nova Scotia's Personal Health Information Act and other applicable standards and agreements;
- To notify the Nova Scotia Health Authority and the REB immediately and in writing if personal health information is stolen, lost, or subject to unauthorized access, use, disclosure, copying or modification;
- To notify the Nova Scotia Health Authority immediately and in writing of any known or suspected breaches of applicable agreements.

Signature: _____

(supervising investigator)

Date: _____

2016/08/11
(yyyy/mm/dd)

Appendix K: Letter of Support from Supervising Investigator's NSHA Department



Research Ethics Board

Nova Scotia Health Authority Research Ethics Board
 Centre for Clinical Research, Room 118
 5790 University Ave., Halifax, NS B3H 1V7
 Phone: 473-2125 Fax: 473-5620

Letter of Support from the Supervising Investigator's NSHA Department / Division / Program / Service

Applies only to non-interventional studies. Required if the PI is a trainee and/or is not a NSHA staff member.

Research Study	
Title of Protocol	Understanding Public Health Nurses Engagement in Addressing Food Insecurity

Principal Investigator (PI)	
Name	Shannan MacDonald

Supervising Investigator (SI)	<i>As specified in the Ethics Approval Submission Form.</i>
Name	Patty Williams

Head of Supervising Investigator's NSHA Department / Division / Program / Service	
Name	[REDACTED]
Position	Chair Department
Department / Division / Program / Service	Applied Human Nutrition, MSUU

I confirm that the supervising investigator is qualified by education, training and experience to assume overall clinical and supervisory responsibility during the conduct of this study at this site.

Signature: [REDACTED]
 (head of SI's dept / division / program / service)

Date: 2016/08/15
 (yyyy/mm/dd)

Appendix L: Email Script for Site Investigators to Recruit Public Health Participants

Subject: Request for participation in research study *Understanding Public Health Engagement in Addressing Food Insecurity*

Dear Colleague,

Below you will find a letter from a PhD student investigator from the University of Ottawa, Ontario who is conducting research about the nature and scope of public health nurses engagement in work to address food insecurity and the factors that influence their engagement in food insecurity initiatives. She has asked me to send this letter. She is asking for your permission to be contacted about participating in the study. You are under no obligation to participate.

Kind Regards,

[INSERT NAME OF PUBLIC HEALTH UNIT]

Dear [NAME],

I am a PhD student in Nursing at the University of Ottawa, Ontario. I am writing to invite you to participate in a research study entitled: *Understanding Public Health Nurses Engagement in Addressing Food Insecurity*. I am conducting this research under the supervision of Dr. Josephine Etowa.

The purpose of this research is to examine the nature and scope of public health nurses' engagement in addressing food insecurity and to explore factors that contribute or constrain their efforts to engage addressing in food insecurity. This research will help fill a knowledge gap about how public health nurses are engaging in addressing food insecurity. Uncovering the factors influencing public health nurses can help identify ways to strengthen public health nurses engagement in efforts to increase food security in Canada. Food insecurity was chosen because it is a contemporary issue, poses a serious threat to health, and has implications for public health nurses' work.

I am very interested in hearing about your experiences and expertise with engaging in addressing food insecurity or your understanding of the factors that contribute or constrain public health nurses involvement in addressing food insecurity.

If you are willing to be contacted, please complete the form below and email to:
You can also reach me by phone:

Contact Information

Your Name: _____

By which means would you like to be contacted? Please tick all that apply.

- Phone number _____
- Email address _____

Sincerely,

Shannan MacDonald BScHNU, RN, PhD(c)

Appendix M: Email Script for Recruitment of Municipal Government Officials

Subject: Request for participation in research study *Understanding Public Health Engagement in Addressing Food Insecurity*

Dear [MUNICIPAL COUNCILLOR NAME],

I am a PhD student in Nursing at the University of Ottawa, Ontario. I am writing to invite you to participate in a research study entitled: *Understanding Public Health Nurses Engagement in Addressing Food Insecurity*. I am conducting this research under the supervision of Dr. Josephine Etowa.

The purpose of this research is to examine the nature and scope of public health nurses' engagement in addressing food insecurity and to explore factors that contribute or constrain their efforts to engage in addressing food insecurity. This research will help fill a knowledge gap about how public health nurses are engaging in addressing food insecurity. Uncovering the factors influencing public health nurses can help identify ways to strengthen public health nurses engagement in efforts to increase food security in Canada. Food insecurity was chosen because it is a contemporary issue, poses a serious threat to health, and has implications for public health nurses' work.

I am very interested in hearing about decisions for funding and governing public health, water supply, urban and regional planning, housing, transportation, and social services, all of which are directly or indirectly relevant to food insecurity sustainability in your region. Your perspectives on food insecurity priorities in your region will be valuable for this research. I would like to contact you by telephone or in person (which ever you prefer) during [INSERT TIME] to discuss the study with you and your willingness to participate.

If you are willing to be contacted, please complete the form below and email to:
You can also reach me by phone:

Contact Information

Your Name: _____

By which means would you like to be contacted? Please tick all that apply.

- Phone number _____
- Email address _____

Sincerely,

Shannan MacDonald BScHNU, RN, PhD(c)

Appendix N: Email Script for Permission from Potential Participants to be Contacted

Dear Colleague,

Below you will find a letter from a PhD student investigator from the University of Ottawa, Ontario who is conducting research about the nature and scope of public health nurses engagement in work to address food insecurity and the factors that influence their engagement in work to address food insecurity. She has asked me to send this letter. She is asking for your permission to be contacted about participating in the study. You are under no obligation to participate.

Kind Regards,

[INSERT NAME OF PUBLIC HEALTH UNIT]

Dear [NAME],

I am a PhD student in Nursing at the University of Ottawa, Ontario. I am writing to invite you to participate in a research study entitled: *Understanding Public Health Nurses Engagement in Addressing Food Insecurity*. I am conducting this research under the supervision of Dr. Josephine Etowa.

The purpose of this research is to examine the nature and scope of public health nurses' engagement in addressing food insecurity and to explore factors that contribute or constrain their efforts to engage in addressing food insecurity. This research will help fill a knowledge gap about how public health nurses are engaging in addressing food insecurity. Uncovering the factors influencing public health nurses can help identify ways to strengthen public health nurses engagement in efforts to increase food security in Canada. Food insecurity was chosen because it is a contemporary issue, poses a serious threat to health, and has implications for public health nurses' work.

I am very interested in hearing about your experiences and expertise with engaging in addressing food insecurity or your understanding of the factors that contribute or constrain public health nurses involvement in addressing food insecurity. I would like to contact you by telephone or in person (which ever you prefer) during [INSERT TIME] to discuss the study with you and your willingness to participate.

If you are willing to be contacted, please complete the form below and email to:
You can also reach me by phone:

Contact Information

Your Name: _____

By which means would you like to be contacted? Please tick all that apply.

- Phone number _____
- Email address _____

Sincerely,

Shannan MacDonald BScHNU, RN, PhD(c)

Appendix O: Individual Interview Guide

This list of questions will guide the researcher. It does not have to be adhered to systematically or completely. The participant's response will also guide the questions.

Introduction :

Before I begin the interview, I would like to thank you for your participation. Your perceptions are important to help others understand how public health nurses decide to engage in food insecurity. I am particularly interested in the nature and scope of your involvement in addressing food insecurity and how you decide to engage in food insecurity interventions. When I refer to food insecurity interventions, I mean any short-term programs to relieve hunger, capacity-building programs, to policy development related to eradicating food insecurity. I will begin with some questions about your understanding and experiences in engaging in food insecurity. I will then ask you some questions about your perspectives about some of the potential factors that influence your engagement. There is no right or wrong answer. Please remember that you do not have to answer any questions that make you uncomfortable. The interview will take about an hour.

Questions guiding reflective pattern of dialogue:

1. What is your experience in ...? What happens when...? Tell me about when you... What do you do when...?
2. Why do you think this happened?
3. So, what does this say about...?
4. Now what ...?

General Probes

- Tell me more...
- Tell me a little bit more about...
- Can you expand on that?
- What did you mean by that?
- What does that mean to you?
- How does that make you feel?

Key Topic Area	Questions	Probes
Introduction	<p>Why did you want to participate in this study?</p> <p>Can you tell me a little bit about your professional background?</p> <p>Why did you go into this field? How did you end up doing this job?</p> <p>Tell me about what (if any) education or training you may have received regarding food insecurity?</p>	<p>Why are you interested?</p> <p>Occupation, total years of practice, total years experience with addressing food insecurity.</p> <p>-formal/informal -academic education -job orientation/training -workshops/in-services</p>

Definition of food insecurity	From a public health nurse's perspective, what does food security/food insecurity mean to you?	
Perceptions of role in addressing food insecurity	<p>Tell me about your experiences in engaging in addressing food insecurity</p> <p>What role do you think public health nurses should play in addressing food insecurity?</p> <p>Is addressing food insecurity an important part of your practice?</p> <p>What are some of the potential opportunities for public health nurses in addressing food insecurity or becoming involved in food insecurity interventions?</p> <p>What public credibility do you believe public health nurses have with respect to their role in addressing food insecurity?</p> <p>Is there anything else that could facilitate the further integration of public health nurses in engaging in addressing food insecurity?</p>	<ul style="list-style-type: none"> - Some of the things you do to help clients living with food insecurity - enabling access to information/services -linking with other supports in the community -providing easy to read materials -enabling client-provider interaction -advocacy on behalf of clients -creation of social policy <p>- is this the same as what currently doing?</p> <p>Why/why not?</p> <ul style="list-style-type: none"> -research -projects
Decision-making influences	<p>Tell me about who or what is involved in defining your role in addressing food insecurity</p> <p>Would you describe an example of when you decided to engage in addressing food insecurity and/or when you decided not to engage in addressing food insecurity?</p> <p>What are major external influences on your public health unit's priorities and engagement in food insecurity?</p>	<p>-policies, standards of practice, professional responsibilities, regulatory and/or organizational mandates</p> <p>What were the main factors that influenced the decisions made? Probes: regulatory and/or policy mandate of your public health unit</p>

Clients' barriers to food insecurity	In your opinion, what are some causes of food insecurity that clients face?	<ul style="list-style-type: none"> -Personal values/factors -family/social network -environment/community -financial barriers <p>What are the implications of these barriers for your practice?</p>
Sense of personal self-efficacy in addressing food insecurity	<p>How confident are you in your ability to address food insecurity? Why?</p> <p>What has influenced your level of confidence in engaging in addressing food insecurity?</p>	<p>Adequate education/training, supporting evidence, strong institutional mandates (i.e., public health)</p> <p>What are the implications of your level of confidence for your practice?</p>
Support for engagement in action to address food insecurity	<p>What kinds of information, tools, and/or other resources do you think are valuable to support public health nurses working to improve food insecurity?</p> <p>Are there any gaps in what information and supports are currently provided to public health nurses?</p>	<p>Do you have access to these?</p> <p>If yes, what are they?</p>
Barriers to engaging in addressing food insecurity	What are some difficulties you encounter in engaging in addressing food insecurity?	<p>time constraints, competing responsibilities, tensions/conflicts, avoiding creating feelings of shame/guilt, challenges with physical accessibility in rural areas, cultural differences in rural areas</p> <p>Why do you think this happens?</p> <p>How do you deal with these barriers (i.e., unsupportive healthcare environments) in your daily practice?</p>

Perceptions food insecurity support	<p>What other resources in the community are supporting food insecure clients?</p> <p>Are there any barriers you encounter in getting support for food insecure clients?</p> <p>In your opinion what would “ideal” food insecurity support look like?</p> <p>Who are the key players in each sector in Nova Scotia that are involved in or have influence on the food insecurity interventions?</p>	<p>In your opinion, are these supports effective? Why/why not? How is their role different from yours?</p> <p>Probes: Inadequate resources/supports in the community, lack of mandate to address food insecurity</p> <p>What has been the role of the key players? Probes: policy development? Program implementation? Have any players had a more substantive role than some of the others? In your opinion, do any of the sectors or players have radically different goals from each other?</p>
Collaboration	In theory, public health has a role of collaborating with key stakeholders (e.g., municipal government representatives, Civil Society)	<p>To what extent do you think this happens in practice? Can you give examples of where this does or does not happen? Are there ways this could be improved?</p>
Desired changes	What could be changed to make your engagement in addressing food insecurity easier or more effective?	More time/resources, division of responsibility, increased support from leadership
Wrap-up	<p>Is there anything else you would like to share about yourself/your practice that may impact your work around food insecurity?</p> <p>Is there anything that I didn't ask that you wish I did?</p>	Is there anything you want to add or go back to?

Closing Remarks

Thank you for your participation. I appreciate you sharing your experiences with me. Your comments have been recorded and will be transcribed. Once again, all of the information will remain completely confidential and will only be shared between my thesis committee members and myself. If you have any questions about the research please don't hesitate to contact me.

Appendix P: Participant Demographic Profile

Participants will be asked to complete the following demographic information as part of the interview process.

Please specify the title of your position at the public health unit:

Please provide a brief description of your current role: _____

How long have you worked with at the public health unit? _____years _____months

How long have you worked in your present position? _____years _____months

How long have you worked or volunteered in food insecurity at this public health unit?

_____years _____months

What is your educational background? (please check all that apply)

- High School
- Diploma, specify: _____
- Bachelor Degree, specify: _____
- Graduate Degree, specify: _____

How long have you been practicing in your profession or field? (i.e., how long have you been a manager, nurse, dietitian, etc.) _____years _____months

Have you received education or specialty training about food security and/or food insecurity?

- Yes
- No

If yes, please describe: _____

Appendix Q: Member-Checking Guide

Preamble:

We are conducting focus group discussions as a follow up with all of the staff at this public health unit who participated in the research study *Understanding Public Health Nurses Engagement in Addressing Food Insecurity*. Now that the data collection based on ___ (#) individual interviews and review of ___ (#) organizational documents has been completed, the purpose today is to review the findings and preliminary analysis with you, followed by a focused discussion on further insights and recommendations that you might have. This discussion should take no more than 90 minutes, but we would like everyone to have the chance to give their opinion.

Before beginning our conversation, we would like you to review the information sheet and consent form provided, ask any questions you might have about the focus groups, and sign the form if you feel comfortable in participating in the focus group.

Presentation of Key Findings & Preliminary Analysis: 15 –20-minute power point - TBD

Discussion Questions:

1. What is your overall reaction to the findings from this research? [Probes: What resonates for you? What surprises you?]
2. When you listen to what has emerged in terms of specifics about the concept of ‘food security’, how is this same or different from what you had imagined? [Probes: Does it make sense to you? Is there anything missing? What further/new questions arise for you?]
3. What about the findings and analysis related to organizational factors that influence public health nurses’ engagement in food insecurity — what is your reaction to what has emerged in this study? [Probes: Are there additional factors that facilitate engagement? What about factors that inhibit engagement or create barriers?]
4. With respect to recommendations, do they cover the main areas you would want highlighted? [Probes: What additional recommendations would you want included? Are there any that you are questioning/wondering about their relevance?]
5. What additional questions has this research raised for you? [Probe: If there was an opportunity to do more research on public health nurses’ engagement in food insecurity, what do you think would be important to focus on? What are some research priorities in the area of public health nurses’ engagement in food insecurity?]

Appendix R: Document Summary Form

Adapted from Miles & Huberman (1994, p. 55)

Name/Description of Document:	Date received/Picked Up:
Event/Contact with which document is associated:	
Significance or Importance of Document:	Codes
Brief Summary of Contents:	Codes