An Investigation of Health Promotion Programs on Food and Nutrition in Rural and First Nations Communities of Northwestern Ontario

Stephanie Collins 0425627
Master of Public Health Program, Lakehead University
Supervisor: Mirella Stroink
Submitted April, 2009

Abstract

Purpose: To discover the status of health promotion programs based on food and nutrition in rural and First Nations communities in Northwestern Ontario, and the challenges, successes, and methodologies behind providing them. Background: Rural communities typically have lower health status than urban communities, and Aboriginals have lower health status than non-Aboriginals in Canada. Contributing factors for these disparities are discussed with a particular emphasis on the role of food and nutrition. Results: There are many programs involving food or nutrition in this area. Programs proved successful in using participatory models for intervention planning and delivery, having adequate training and ongoing support for interveners, delivering clear messages, using a rural lens, and using an Aboriginal focus. There were many challenges for health professionals, often surrounding food security, cost, and availability of food. Challenges did not always have solutions. More research is needed on the theoretical base of programs, and the challenges that face communities, their processes, and resulting health consequences in Northwestern Ontario specifically.

Contents

LITERATURE REVIEW

The purpose of the present study is to explore the status of health promotion programs based on food and nutrition in rural and First Nations communities in Northwestern Ontario. The literature review serves to identify the information that is already known on this topic, specific to Northwestern Ontario. It will result in the identification of gaps in knowledge that merit research. The present study will use the information uncovered in this literature review as rationale for the design of the research methods used.

Introduction

Over the past 150 years, Canada has shifted from a predominantly rural country to an urban one. Although the majority of Canada's land is rural, eighty percent of its inhabitants are concentrated in urban centres (Statistics Canada, 2005). This percentage is the same for Ontario, with approximately 2.4 million Ontarians living in non-urban centres (Government of Ontario, 2008). As well, 3.3% of Canadians identify themselves as Aboriginal, many of whom live in rural Canada. In Ontario alone, there were 188,315 self-identified First Nations people in 2001 (Statistics Canada, 2001). These communities are spread from north to south across Ontario, with over 130 First Nations reserves (Chiefs of Ontario, 2005). This literature review will focus on a northern rural perspective and include information on Aboriginal peoples. It is recognized that not all First Nations communities are rural and not all rural communities include First Nations people.

Rural, Remote, and Northern

When discussing "rural" it is important to address the issue of its definition. The definition used greatly affects the way research is collected and compared. The definition also outlines which communities qualify as rural, therefore having a big impact on the rural population number in any specified area.

There can be different levels of rurality, such as when using the Metropolitan Influenced Zone definition, which characterizes rural communities in terms of their distance from urban centres (Canadian Institute for Health Information [CIHI], 2006). Other definitions describe rural by what it is not: urban. These approaches require the definition of "urban" to be addressed as well. Two such definitions will be explained, although there are many definitions that may focus on different aspects of rurality.

The Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA) uses a working definition of rural that describes it as any area of the province of Ontario that lies outside of nine specific urban centres. There are two urban centres within Northern Ontario – the City of Greater Sudbury and the City of Thunder Bay. As well, any community within these centres with a population less than 100,000 will be considered rural (OMAFRA, n.d.). This definition results in a rural population that may be substantially greater than other definitions.

Statistics Canada, for its 2006 census, uses a similar definition of rural. However, its definition of urban differs. Urban is defined as any area with a population of at least 1,000 and no fewer than 400 persons per square kilometre. It also breaks down these areas further, into census metropolitan areas, census agglomeration areas, and census

agglomeration influenced zones (Statistics Canada, 2007). This definition allows researchers to be more precise, however it may pose issues in comparing data.

Often a definition is chosen to suit the specific research design, due to the challenges of collecting data in rural areas. When reading literature or comparing research on rural communities, it is important to be clear on what definition is in use. This review will use many definitions, as many sources of information will be presented.

The definition of "remote" is much more simplified. It can be derived from the meaning of the word. Remote refers to any community that does not have year-round access, or has limited access, by land. Remote communities are most likely classified as rural as well, although this only works one way, as rural does not imply remote.

Northern Ontario is comprised of two regions: Northeastern and Northwestern Ontario. These regions cover ten districts, the farthest south being Parry Sound District (Ontario Ministry of Municipal Affairs and Housing, 2008). Historically, Northern Ontario included the District of Muskoka (Ontario Ministry of Government Services, 2005). This is not the case today for many ministries, especially for health, which in 2005 changed the Muskoka-Parry Sound Health Unit into the Simcoe Muskoka District Health Unit and the North Bay Parry Sound District Health Unit (Ontario Ministry of Health and Long-Term Care, n.d.). This makes the boundary between Muskoka and Parry Sound the most relevant boundary of Northern Ontario in a health context. The present study will focus on Northwestern Ontario.

Northwestern Ontario

Northwestern Ontario includes the districts of Kenora, Rainy River, and Thunder Bay. It is a large geographical area, comprising of 58% of Ontario's landmass, but with only 2.1% of its population (Service Canada, 2007). Thunder Bay is the largest city in this region, with a population of approximately 120,000 (Thunder Bay Regional Health Sciences Centre [TBRHSC], 2008). There are numerous remote areas in this region, and a higher concentration of First Nations communities than the rest of the province. A map of First Nations communities can be found at the Chiefs of Ontario (2005) website[1].

Health Status

To describe the health status of rural community members is simple: it is on average, less than their urban counterparts (CIHI, 2006; Strong, Trickett, Titulaer, & Bhatia 1998; Allan, Ball, & Alston, 2007). The same is true for First Nation peoples. They are on average, less healthy than non-Aboriginals (Curtis, 2007; First Nations Centre, 2004; Young, Reading, Elias, & O'Neil, 2000). These disparities in health are based on several health indicators and determinants of health. They have been longstanding issues, with causes embedded in many characteristics of rural, remote, and northern areas. A brief description of these indicators and possible causes are as follows.

Rural Health Status and Influences on Health

According to Romanow's report *Building on Values: The Future of Health Care in Canada* (2002), geography is considered to be a determinant of health. Rural

[1] http://www.chiefs-of-ontario.org/

community members have lower life expectancy than the Canadian average, higher disability rates, and more cancer-related deaths than urban populations. Overall, they have a poorer health status than urban areas, simply because of where they live.

The most prominent characteristic of rural, remote, and northern areas is location. Due to the location of these communities, landscape and climate are major influences in lifestyle. These factors affect the availability and cost of food, physical activity, leisure activities, and employment opportunities – many of which are seasonal and based in hospitality, forestry, or mining. With fewer members in rural communities, jobs may be difficult to obtain. This results in "urban drift" where young people migrate to urban centres for employment, thus reinforcing an already ageing community (Allan, Ball, & Alston, 2007). The lack of employment and education opportunities results in lower averages of income level and socioeconomic status. These are major determinants of health, and therefore contribute to lower health status (CIHI, 2006).

Location also determines access to health care and support services. Distance to hospitals, doctor's offices, and emergency services affect the amount of health care received and the response time for emergencies. In some remote communities, services may not be available at all. With community members spread across vast areas of land, it is not financially feasible to have health centres within reasonable distance to everyone, and is often difficult to have existing centres properly staffed and equipped (Baumann, Hunsberger, Blythe & Crea, 2008).

Distance is also a factor in road safety, and as rural Ontarians must drive farther distances, motor vehicle accidents are a greater problem (CIHI, 2006). As well, unintentional injuries and suicide rate in males increases with increasing rurality. The

increase in unintentional injuries is likely linked to type of employment, such as dangerous production processes (CIHI, 2006). Suicide rates are higher in males, but not females, in rural communities. Some contributors to this are stress due to job uncertainty, substance abuse (CIHI, 2006), and a higher rate of completed suicide in Aboriginal populations (Katz, et al., 2006).

The number of influences on lifestyle and health in rural communities is abundant. They are so numerous and complex, that a comprehensive description of all of them would be best left to a report focused solely on them. To list a few more influences, without going into the depth of their impact, would include: physical conditions, such as water and air quality and contaminants in the food chain (such as lichen); social health issues, such as increased family violence and more adverse life conditions for women; lack of self-efficacy and feeling of control over one's own life; education and early life resources; lack of anonymity in one's community; heredity; and access to technology and information (Watanabe & Casebeer, 2000). The combined impact of these factors and others creates a challenge in describing these unique communities and in designing health promotion programs for them.

Aboriginal Health Status and Influences on Health

Aboriginals living in rural communities are impacted by the above mentioned factors and more. Cultural and racial issues specific to the First Nations heritage are further influences on health. A highly recognized health issue in the Aboriginal population is diabetes (Young, Reading, Elias, & O'Neil, 2000; First Nations Centre, 2004). Although the rate of diabetes can differ among communities, language group,

geographic area, and degree of isolation, it is estimated to be approximately 3.6% higher among men and 5.3% higher among women than the general population. This is considered to be indicative of the sociocultural changes experienced by Aboriginal people in the last several decades (Young, Reading, Elias, & O'Neil, 2000).

According to the First Nations and Inuit Regional Health Surveys (First Nations Centre, 2004), lifestyles of many Aboriginals are not health enhancing. As many as 50% of adults appear to be obese, and youth eating habits are not optimal. Chronic conditions such as hypertension, heart disease, arthritis/rheumatism, and cancer are much higher than average. Smoking and substance abuse are issues that arise in youth and are persistent into adulthood. As well, a very high percentage of adults reported being physically (59%) or sexually (34%) abused when they were children.

With all these factors influencing the health of Aboriginal and rural community members, it is difficult to know where to begin resolving issues. The fundamental needs of human life are food, water, and shelter. Therefore, addressing food and nutrition issues will be fundamental in providing the best opportunities in life.

Food and Nutrition

Lifestyle factors, including a balanced diet, are a recognized determinant of health (World Health Organization [WHO], 2008a). Nutrition and dietary intake have long been associated with a range of chronic diseases and conditions. These diseases include cardiovascular disease, hypertension, diabetes, kidney disease, and cancer, among others. Diet is also a determinant of obesity, which is not a disease in itself, but a major risk factor for other conditions (Carroll, 1990; WHO, 2008b). With many of these issues

present in rural and First Nations communities, it makes sense to aim prevention efforts at a contributor to the problem.

In Ontario, the Canada Food Guide (Health Canada, 2007a) is commonly referred to as guidelines for a balanced diet. Health Canada (2007b) has also created a guide for First Nations, Inuit, and Métis, which includes traditional foods. While these guides are available online and in print to everyone in Canada, this does not mean they are understood and followed by every Canadian.

Factors Affecting Food in Northwestern Ontario

In Canada there exists the Revised Northern Food Basket (Indian and Northern Affairs Canada [INAC], 2008a). This tool provides insight into the cost and availability of food in isolated communities in Northern Canada. It serves as a benchmark for comparing the cost of a nutritious diet for a family of four, in different communities over time. It takes into account northern food preferences as much as possible, so when comparing the price of the food basket in Northern Ontario to Southern Ontario, it must be kept in mind that certain foods, such as evaporated milk, would not be purchased as often in Southern Ontario. The cost of the Revised Northern Food Basket, for 2006/2007, in most isolated communities in Canada would be between $350 and $450. In southern communities, the same basket would sell between $195 and $225 (INAC, 2008b).

The cost of food varies between communities and is dependent on many factors such as degree of isolation, climate, and transportation costs. Cost is also closely associated with food security. When food costs exceed the means of family incomes, providing nutritious food each day becomes a challenge. Food security is an issue in

Northwestern Ontario, and an example of this is the community of Fort Severn, located 850 kilometres north of Thunder Bay (INAC, 2004).

To combat the issue of food security in Canada, the Government of Canada set up the Food Mail Program. Administered by INAC, funding is provided to Canada Post for transporting nutritious, perishable foods to isolated communities across the country. Any isolated community that does not have year-round surface access is eligible (INAC, 2008c). In Northwestern Ontario, Fort Severn, a Cree community of approximately 450 members, began the program in 2003. At this time, approximately two thirds of community members reported food insecurity, as food costs were about 82% higher in Fort Severn than in Ottawa, Ontario. By providing the funding for transportation of foods, the government was able to lower the cost for community members (INAC, 2004).

Across Northwestern Ontario, the average reporting of food insecurity is not quite as drastic as in Fort Severn. According to a report on nutrition in Northern Ontario, approximately 8% of households are food insecure. This is derived from parents' responses to a survey on child health. They also reported that only 43% of children aged 2 to 6 are classified at a normal Body Mass Index. This is comprised of 30% being overweight, 17% at-risk for being overweight, and 9% underweight (Sudbury and District Health Unit, 2003). Child health reflects a certain degree of parents' understanding and enforcement of healthy eating practices, their ability to teach their children about healthy eating, and their ability to provide nutritious foods.

It should be kept in mind that this nutrition report included Northeastern Ontario as well. Information based on Northwestern Ontario, and even Northern Ontario is limited. This lack of data contributes to the challenges of promoting healthy eating in

different communities and shows the lack of investment in healthy eating research in Northern Ontario. There is a recognized need for enhanced knowledge about healthy eating for public health program planners and policy makers, as well as research on current status and influences on healthy eating in Northern Ontario (Sudbury and District Health Unit, 2003).

Cultural Components of Aboriginal Food Intake

Historically, Aboriginals hunted, gathered, and processed their food on their own. Today, this is referred to as a "traditional food system" which identifies foods that are culturally acceptable and available from local natural resources (Kuhnlein & Receveur, 1996). These natural resources include different species of animals and plants, and are influenced by regional climates. Increasingly, traditional foods are being replaced with modern foods. In fact, only about 15% of Aboriginals in Canada still obtain most of their meat and fish from hunting and fishing (Young, Reading, Elias, & O'Neil, 2000). For those who remain in their traditional environment, the shift to modern foods may be more gradual. However, relocating, economic and social factors, and the influence of markets and grocery stores in their communities, contribute to the loss of traditional food knowledge and motivation and ability to maintain it. The result is a decrease in culture-specific food activities, dietary diversity, and physical activity (Kuhnlein & Receveur, 1996).

Modern foods tend to include more processed and packaged foods, fast foods, and food items that have been transported from any distance around the world. Consumption of modern foods over traditional foods has led to a poorer diet among Aboriginals than

the general population (Garriguet, 2008; Kuhnlein & Receveur, 1996). This poor diet along with other lifestyle choices, are some of the likely causes for the increase in chronic diseases in this population (Kuhnlein & Receveur, 1996).

Health Promotion Programs

There are many different methods of promoting health. According to the Ottawa Charter for Health Promotion, these methods fall into five categories. The categories include: reorienting health services, enhancing personal skills, strengthening community action, creating supportive environments, and building healthy public policy (Canadian Public Health Association [CPHA], World Health Organization [WHO], 1986). Within these categories, specific strategies may include education, communication, legislation, fiscal measures, community organizational change, community development, and local community action (Shah, 2003).

The programs of interest in this review are those based on food and nutrition, using health education and learning. These programs may include more than one method such as enhancing personal skills and creating supportive environments, as well as multiple strategies such as education, communication, or community development.

Qualities of Effective Health Promotion Programs

A fundamental basis of health promotion is evidence-based decision making (Hamilton & Bhatti, 1996). Effective health promotion programs begin with a theoretical background. The theories that underlie health education are those based on behaviour

change (Kreuter, Lezin, Kreuter, & Green, 1998; Shah, 2003; Sheinfeld Gorin & Arnold, 2006).

There are several theories that are commonly used in health promotion. These include: social learning theory, the health belief model, self-efficacy, the stages of change model (Kreuter et. al., 1998; Shah, 2003; Sheinfeld Gorin & Arnold, 2006), the theory of reasoned action (Kreuter et. al., 1998), and the theory of planned behaviour (Sheinfeld Gorin & Arnold, 2006). These theories or concepts explain different aspects of behaviour change, such as the motivation behind it, or the stages of progress through it. Whichever theory a program is based on, it is important to ensure a theory is used and that the evidence behind the planning is explained clearly.

When providing health promotion programs to Aboriginal peoples, it is also important to take into account their culture (Mikhailovich, Morrison, & Arabena, 2007). This includes the diversity within their population, language, socio-economic situation, and geographic location. This also means tailoring programs to individual communities, not simply Aboriginal versus non-Aboriginal populations (Hanley et. al., 1995; Ho, Gittelsohn, Harris, & Ford, 2006).

A review of the literature on effective nutrition interventions was published in 2006 for Cancer Care Ontario (Sahay, Ashbury, Roberts, & Rootman, 2006). This review identified six previous literature reviews, and included 67 articles, ultimately categorized into 15 interventions. The results of the review were intended for use in designing a provincial nutrition and healthy body weight strategy. The review produced five effective components of a nutrition intervention:

- Ensure interventions are theoretically based
- Involve the family as a source of support

- Use participatory models for intervention planning and delivery
- Deliver clear messages
- Provide adequate training and ongoing support for interveners

The review did not indicate if any studies included rural or Aboriginal populations, or mention issues of culture or accessibility. Therefore, these components should be utilized with a rural lens and/or Aboriginal focus as outlined in the following section.

Health Promotion Programs in Rural and First Nations Communities

There are unique issues surrounding health promotion programs, health research, and even health care delivery in rural and First Nations communities. These issues make the planning, implementation, and evaluation of programs significantly different than in an urban setting. The most important issue perhaps is basing programs in community reality, and truly understanding the community and its members (Kinnon, 2002; Watanabe & Casebeer, 2000).

Providing health promotion programs in First Nations communities is a challenging process. There are numerous factors to consider, many of which are not apparent until one is familiar with a specific community. This is what is meant by basing programs in community reality. Program planners must be flexible and accommodating to each community's situation, resources, and preferences. Some communities may favour traditional methods alone, some may prefer western approaches to health promotion, and some may want to incorporate both to any degree. There is a comprehensive source of information on the issues in promotion and prevention programming by Kinnon (2002), in consultation with the National Aboriginal Health Organization. This source outlines common issues encountered in Aboriginal

communities. It identifies seven key issues in improving promotion programming that apply to most communities: the present reality in Aboriginal communities, staffing issues, financing issues, culture and tradition, health information, participation in decision-making, and capacity development.

A common theme among Aboriginal communities is the lack of funding for programs, and the lack of adequately trained staff to provide the programs, especially staff of Aboriginal descent. This creates another challenge of incorporating culture and traditional values in the programs, which is very important in these communities. With so much collaboration with outside health professionals, it is important to include Aboriginal representation in decision-making and to focus on capacity development of the community to provide its own programs. These issues are complex, and ideally dealt with in each individual community (Kinnon, 2002).

The issues involved with providing health promotion programs in rural communities are quite similar to those in Aboriginal communities. There is a trend of limited resources and personnel, paired with low population density. An urban viewpoint and definitions of health issues are not appropriate. Each rural community is unique and must be approached as such. For outside health professionals, getting to know community culture and building a long-term partnership with local health professionals is a cornerstone of providing successful health promotion programs. Community engagement is extremely important and should involve collaboration on capacity building, and participatory decision-making (Lightfoot, Strasser, Maar, & Jacklin, 2008; Watanabe & Casebeer, 2000).

These issues are reflected in health promotion practices in rural and First Nations communities across Canada. Two such examples are found in British Columbia and in Manitoba.

Three communities in the Tsimshian Nation in British Columbia participated in a diabetes screening program with the University of British Columbia (Panagiotopoulos, Rozmus, Gagnon, & Macnab, 2007). The project resulted in a report that included its challenges and keys to success. These points included the importance of community desire for the project, comprehension, and ownership; the importance of community relationship with researchers; the consideration of cultural context; taking enough time to establish community involvement and support; addressing issues of access and travel; and using appropriate facilities and equipment. Cultural sensitivity was extremely important in this program, which was achieved by including Elders from the community in developing, advertising, and implementing the program. Researchers also addressed issues of conflict between paternalistic western medicine and traditional values, as well as animosity towards 'white men' and 'outsiders' due to ongoing land claims and residential school abuses. Open communication with community members and inclusive decision-making were successful in creating a strong relationship, and the remoteness of the community and its cohesiveness worked as a benefit for information travelling quickly by word of mouth. The program would not have been successful without the support of community Elders and the integration of culture.

In Manitoba, a rural health promotion program called the Manitoba Heart Health Project (MHHP) Demonstration Project was provided between 1992 and 1995 (Harvey, Hook, McKay, Cepanec, & Gelskey, 2001). The project leaders suggest from their

experience that interventions are successful due to: addressing a well-understood local need, having local demand for the innovation, deriving the innovation locally as well as having it championed by one or more local people, adequate financing, and widespread ownership. Once again, tailoring to the community and emphasizing community engagement are key approaches to successful programs.

Existing Food and Nutrition Programs

There are many health promotion programs offered in Ontario, at various levels, from provincial down to local initiatives. Some examples of programs, projects, and research will be provided at each level.

Ontario

In Ontario, province-wide initiatives are typically provided by divisions of government or large organizations, such as the Ministry of Health and Long-Term Care (MOHLTC), the Ministry of Health Promotion, or the Ontario Public Health Association (OPHA).

The MOHLTC began the Ontario Heart Health Program in 1998, which is aimed at preventing cardiovascular disease (Ontario MOHLTC, 2002). The program was delivered through public health units and local partners across the province. Its tenets were avoiding tobacco use, eating a healthy diet with lots of fruits and vegetables, and living an active lifestyle. This program was part of the Ontario government's cardiac strategy, which included health promotion and disease prevention, community-based care, hospital and in-patient care, and cardiac rehabilitation.

The Ontario Ministry of Health Promotion developed *Ontario's Action Plan for Healthy Eating and Active Living* (2006). This action plan is a guide, rather than a program itself, for public health units and community organizations to prioritize health promotion efforts to include healthy eating and active living. The Ministry supports local programs by providing funding, information, and resources.

The Ontario Public Health Association has developed four health promotion programs through its Nutrition Resource Centre that are focused on healthy eating. The Nutrition Resource Centre maintains, updates, and distributes materials for the programs, and provides support for implementation, monitoring, and evaluation. These programs are available for use across Ontario. The four programs include: Colour It Up...Go for More Vegetables & Fruit, The Community Food Advisor Program, Eat Smart!, and NutriSTEP (Nutrition Resource Centre, 2008). Colour It Up... is focused on increasing fruit and vegetable consumption by using community-based behaviour change programs for women aged 19 to 50 and their families. The Community Food Advisor Program utilizes volunteers to provide peer education on nutritious food selection and preparation. Eat Smart! recognizes restaurants and cafeterias that maintain standards of healthy food selection, safe food handling, and a 100% smoke-free atmosphere. NutriSTEP is a screening tool for parents to assess their preschoolers' food and nutrient intake, physical growth, physical activity, developmental and physical capabilities, food security and the feeding environment.

Northern Ontario

Due to the unique factors that affect Northern Ontario, some programs are designed specifically for this area. Two such programs are the Northern Healthy Eating Project (Snelling, 2000) and the Northern Fruit and Vegetable Pilot Program (Ontario Ministry of Health Promotion, 2007).

The Northern Healthy Eating Project was designed to increase the fruit and vegetable consumption of Northern Ontario residents. The project was conducted by northern health units over four years. Its goals were to study the factors that affect fruit and vegetable consumption in women aged 19 to 45 with children, and identify ways to promote healthy eating in this population. The project identified many effective ways of promoting healthy eating that included such methods as knowledge and skill enhancement, access and availability of food, cost of food, and quality of food. It recognizes that there are issues affecting food consumption that are beyond the control of community members, and that health promotion includes policy and community action as well as education (Snelling, 2000).

As a result of Ontario's Action Plan for Healthy Eating and Active Living, the Ministry of Health Promotion funded the Ontario Fruit and Vegetable Growers Association (OFVGA) and the Porcupine Health Unit to provide the Northern Fruit and Vegetable Pilot Program to elementary schools in four school boards (Ontario Ministry of Health Promotion, 2007). The program involved providing free fruit and vegetable snacks to students as well as Enhanced Nutrition Education (ENE). Evaluation of the program showed that it was well received by the school community and viewed as a needed program.

Northwestern Ontario

In Northwestern Ontario, the Thunder Bay District Health Unit and the Northwestern Health Unit provide an array of health promotion programs on different topics. Also located here is the Food Security Research Network, which couples Lakehead University resources with Northwestern Ontario partners. This network conducts food-related research in the north and strives to increase local food security (Food Security Research Network, 2007).

The Food Security Research Network addresses issues of healthy eating beyond personal choices and knowledge of healthy food. It promotes health by providing programs on Community Shared Agriculture, Community Gardens, Learning Gardens, and AgroForestry (Food Security Research Network, 2007). These programs address food security by educating local community members in growing and sustaining their own food sources. By providing the tools and knowledge to grow nutritious foods, the network promotes healthy eating and reconnects gardening and growing with culture.

The Northwestern Health Unit provides nutrition programs and healthy living programs under their Chronic Disease Prevention section. Some of the programs that are offered are: Eat Smart!, as previously described; HealthWorks, a website information and resources page on healthy eating in the workplace; and the Student Nourishment Program, aimed at providing nutritious food for all children and youth at school. The health unit is also a hub for information, resources, and links to community partners in promoting health (Northwestern Health Unit, 2008).

The Thunder Bay District Health Unit promotes Healthy Eating For Life! under its Healthy Living division. Programs involved are Eat Smart!, Community Food

Advisors, as described above, and a Healthy Eating Newsletter. There are many links to information on healthy eating at school, in the workplace, for seniors, and EATRIGHT Ontario where a Registered Dietician can be accessed Monday to Friday (Thunder Bay District Health Unit, 2005a).

Program Realities

The previous examples are just some of the programs offered in Ontario. As shown, programs can be offered at many different venues, such as schools, workplaces, health units, community health centres, health clinics, community centres, or any local resource. Part of having programs tailored to communities is making use of local resources. Programs are also not always focused on food and nutrition alone, and may treat this as a component of a program based on healthy lifestyles or disease prevention. This may make identifying programs involving food and nutrition more difficult. Programs can also focus on different aspects of food and nutrition education, such as nutritional value, daily intake, preparation, gardening, or culture.

Local programs may not be consistently offered, either year-round or between communities. While health units have guidelines on what programs should be offered, individual community characteristics and resources determine which ones are most needed, and where.

The Present Study

Poorer health status in rural and First Nations communities warrants health promotion programs based on food and nutrition education and learning. Unfortunately,

there is a lack of information in Northwestern Ontario on what programs are currently offered where, and which methodologies are used. The present study sought to discover this information on the current status of programs and their effectiveness.

The study involved a semi-structured phone interview with a series of survey questions. The questions in the survey were based on listing and describing current programs and their unique challenges, successes, and methodology. The result is a report on the state of health promotion programs based on food and nutrition in Northwestern Ontario. It is intended for use by health promotion program planners and researchers in the future development of programs.

METHODS

Participants

The participants in the study were health professionals involved in managing or providing health promotion programs. These included health promoters, health educators, dieticians, nutritionists, community health workers, and nurses. In most cases, the respondent was the instructor of the program, except for one who was a regional manager of many programs. Position titles of instructors can be found in the Results section. Due to the heterogeneity of communities in Northwestern Ontario, it was necessary to be flexible on who was included as participants in the study.

The study aimed for twenty participants to complete the phone interviews. These participants were found by contact information available through their organizations, phone books, online business directories, or referrals. The contact information was compiled into a list of 50 possible participants, and was sampled until 19 participants

were reached. Upon initial contact with organizations via receptionists or administration, participants were requested that were involved with managing or providing food or nutrition related health promotion programming. A list of participating organization, their community name, and rural, remote, urban, or Aboriginal status are located in Table 1. A map of the distribution of respondents, contacts, and attempted contacts in Northwestern Ontario is attached in Appendix E.

Table 1

Participant Organization, Community Name, and Community Classification

Organization	Community	Community Status
Anishnawbe-Mushkiki Community Health Centre	Thunder Bay	Urban, includes Fort William First Nation[a]
Gizhewaadiziwin Access Centre	Fort Frances	Rural
Keewaywin Health Centre	Keewaywin	Remote, fly-in, Keewaywin First Nation[b]
Machin Family Health Team	Machin	Rural
Muskrat Dam Aboriginal Head Start Office	Muskrat Dam	Remote, fly-in, Muskrat Dam First Nation
NorWest Community Health Centre	Thunder Bay	Urban, includes Fort William First Nation[a]
Northwestern Health Unit	Atikokan	Rural
Northwestern Health Unit	Fort Frances	Rural

Organization	Community	Community Status
Northwestern Health Unit	Kenora	Rural
Northwestern Health Unit	Red Lake	Rural
Northwestern Health Unit	Sioux Lookout	Rural
Northwestern Health Unit	Sioux Narrows-Nestor Falls	Rural
Sunset Country Family Health Team	Kenora	Rural
Thunder Bay District Health Unit	Manitouwadge	Rural
Thunder Bay District Health Unit	Marathon	Rural
Thunder Bay District Health Unit	Nipigon	Rural
Thunder Bay District Health Unit	Thunder Bay	Urban, includes Fort William First Nation[a]
Thunder Bay Indian Friendship Centre	Thunder Bay	Urban, includes Fort William First Nation[a]
Thunderbird Friendship Centre	Geraldton	Rural

Note. Rural and urban defined by OMAFRA (n.d.).
[a]Identified by Nishnawbe Aski Nation (2007).
[b]Identified by Fort William First Nation (n.d.).

Materials

A survey was developed to gather information on different aspects of health promotion programs offered at each participant site. The survey consisted of seven open-ended questions, with optional probing questions. Clarification or elaboration of responses was requested as well where necessary.

The survey began with requesting that all health programs offered at the participant's location be listed. A definition of health program was provided as needed to ensure a complete list was given, and a probing question was asked to clarify which programs involved food or nutrition.

For one of the programs listed as involving food or nutrition, the next six questions were asked. The participants were asked to describe the program, and probing questions were available to ensure all details of the program were covered. The goal was to get a clear picture of the purpose of the program, the target audience, where it is provided, and who it is provided by.

In question 3 participants were asked, where the design of the program came from, whether it was locally developed or brought in from an external source. The probing questions involved how the program was tailored to the community and whether culture was a consideration at any stage of the program. These questions were important in determining how the individual communities adapt to their unique circumstances and how they approach providing programs to their members.

In the fourth question, participants were asked whether they were aware if the program is based on a theory. Examples of theories were provided as needed to clarify the question. A theoretical basis was identified as an effective characteristic of programs,

although if the participant could not identify a theory, this does not mean one could not be applied to the program.

In questions 5 and 6, participants were asked to describe the challenges in providing the program in their community and how these challenges are overcome. In the last question, participants were asked if they thought the program has been effective, and whether any formal evaluation of the program has been conducted. The survey is attached in Appendix A.

Procedure

The interview was introduced as a brief survey of seven questions, the goal of which was to collect information on different aspects of the health promotion programs involving food and nutrition in that community. A cover letter and consent script is attached in Appendix B, and these were read to each participant.

Informed consent involved explaining the purpose of the research and the goal of providing a report of the status of health promotion programs based on food and nutrition in rural and First Nations communities of Northwestern Ontario. Participants were ensured that personal identifying information would not be included in the report, and they did not have to answer any questions they did not want to answer. A verbal agreement of informed consent was accepted prior to commencing the survey.

Once the survey was completed, the participants were thanked and the debriefing script was read (see Appendix C). An offer to make the report available once complete was extended again, and contact information was provided.

RESULTS

Survey Responses

Question 1

"Please list the health programs that are currently offered at (name health centre)"

Respondents listed by memory what programs were offered by their organization. Therefore, the list they provided may not be a complete roster of what their organization provides (see Limitations). In some cases, respondents indicated a number of programs that their organization offered, instead of listing their programs by name (e.g. Northwestern Health Unit, Sioux Lookout) or directed to their website where programs are listed (Thunder Bay District Health Unit, Thunder Bay, and Northwestern Health Unit, Kenora).

"Do any of these programs involve food and/or nutrition?"

All respondents had more than one program involving food or nutrition to some degree. The types of programs that involved food or nutrition are shown in Table 2, as well as the number of times that type was reported. The clinic listed in this table was provided by the NorWest Community Health Centre in Thunder Bay, and involved food by providing food items donated from a local grocery store to walk-in clients to increase turn-out.

The topics these programs covered included (in order of most number of times reported): prenatal, early years, or child nutrition; providing food; chronic disease

management or prevention; healthy living; diabetes; seniors health; family support; child health; reproductive health; weight loss; lifelong care and support; traditional healing and wellness; alcohol, drugs and abuse; women's health; men's health; and eating well for less money. These topics were derived from the title or brief description of the program given by respondents. The two most common topics were prenatal, early years, or child nutrition (26 programs listed) and food provision (22 programs listed). The prenatal, early years, or child nutrition topic ranged from baby-food making classes (Northwestern Health Unit, Sioux Lookout) to healthy eating practices for girls (Northwestern Health Unit, Sioux Narrows-Nestor Falls).

Table 2

Number of Times Each Food or Nutrition-Related Program Type Was Reported by Respondents

Program type	Number of times reported
Community kitchens	18
Presentations	8
Healthy Babies Healthy Children	6
Food Boxes	6
School programs	6
Interactive classes	5
Community gardens	5
Workshops	4
Fair Start/Best Start Program	4
Lunches	4
One-to-one counselling	3
Aboriginal Head Start Program	2
Groups	1
Clinics	1

The program topic may have been listed without getting into how it is provided, which would indicate the type of program. As well, the program could have more than one topic (e.g. a presentation could cover healthy eating and active living), or be delivered through more than one method (e.g. classes and one-to one visits).

Table 3

Community Organization and Percentage of Food or Nutrition-Related Programming

Organization	Community	Percent
Anishnawbe-Mushkiki Community Health Centre	Thunder Bay	50
Gizhewaadiziwin Access Centre	Fort Frances	60
Keewaywin Health Centre	Keewaywin	100
Machin Family Health Team	Machin	100
Muskrat Dam Aboriginal Head Start Office	Muskrat Dam	100
NWHU	Atikokan	50
Northwestern Health Unit (NWHU)	Fort Frances	40
NWHU	Red Lake	30
NWHU	Sioux Lookout	75
NWHU	Sioux Narrows-Nestor Falls	75
NorWest Community Health Centre	Thunder Bay	50
Sunset Country Family Health Team	Kenora	65
Thunder Bay District Health Unit (TBDHU)	Manitouwadge	60
TBDHU	Marathon	50
TBDHU	Nipigon	50
Thunder Bay Indian Friendship Centre	Thunder Bay	100
Thunderbird Friendship Centre	Geraldton	100

Although the programs listed in this question may not be a complete list of programs provided by an organization, from the programs respondents did list, a proportion of programs involving food or nutrition was inferred by dividing the number of food or nutrition related programs by the total number of programs. Four respondents provided this proportion themselves, and two were not able to be calculated because respondents directed to their website for a list of all their programs. The proportion of food or nutrition-related programming is displayed in Table 3. The percentage is rounded to the nearest 5%.

Out of the five respondents that reported 100% of programming involving food or nutrition, two were Aboriginal organizations (Thunder Bay Indian Friendship Centre and Thunderbird Friendship Centre) and two were Aboriginal communities (Keewaywin and Muskrat Dam). The Machin Family Health Team reported providing three programs: the Hypertension Management Initiative, a diabetes program, and an arthritis program, all which involved food or nutrition.

Question 2

Due to time constraints, participants were asked to choose one program that most involved food or nutrition to discuss. The programs that were chosen include: five Community Kitchens, two Prenatal Classes, three Food Box Programs, an Eating Well for Less Money Workshop, a Community Garden, a Skill Building for Early Years Parents Workshop, Healthy You (healthy living program), Adventures in Cooking (for kids), the Urban Aboriginal Healthy Living Program, Hypertension Management Initiative, Child Health, and a Well Baby and Immunization Program.

"Please describe the program"

"What is its purpose and content?"

As there were many types of programs, there were many purposes related to food and nutrition. They were identified as: to provide food (food boxes and community kitchens); to teach how to handle, prepare, and choose foods and to learn about nutritious foods (community kitchens, skill building, workshops, and presentations); to learn how to buy nutritious foods for less money (workshops and food boxes); to learn how to grow food and where it comes from (community gardens); to learn what foods or feeding practices are best for babies and children (prenatal and child health programs); and to learn how to incorporate diet and healthy living (all programs).

The content of the programs involved the information and activities needed to achieve the purpose. The information was on topics such as what healthy foods are, how to handle and prepare healthy foods, how to choose and buy healthy foods, how to grow one's own food, where to access food, and what healthy eating practices are for mothers, babies, children, and families. Activities included gardening, cooking meals, picking up food boxes, or learning about the previously mentioned topics. The Sunset Country Family Health Team noted making use of the First Nations, Inuit, and Métis Food Guide (Health Canada, 2007b).

"Who is the target audience or beneficiary?"

The target audiences were based on age range (e.g. 0 to 6 years, seniors), family role (e.g. mothers or fathers), culture (e.g. Aboriginal decent), group affiliation (e.g. workplaces or schools), socioeconomic status (e.g. low income or those receiving Employment Insurance or disability benefits), or community (e.g. anyone in the

community). One respondent mentioned that the programs that were aimed at lower socioeconomic status generally did not state this formally, but this was the target population intended for the design of the programs. Only one program was provided for Ontario Works beneficiaries only.

"What is the main message of the program?"

Food box programs may not have had a message, as they are aimed simply at providing food at a lower cost. Although, by the result of the program, a message can be derived that fresh fruits and vegetables are good foods by the importance of providing them. Education and learning programs revolve around the message that eating healthful foods will help one stay healthy, and that with a little information and support individuals can learn to eat healthy foods on their own. Community garden programs promote the message that growing one's own food is educational and beneficial, as it can provide individuals and their families with healthy, less expensive foods. Workshops and presentations can revolve around specific messages like "How to Eat Well for Less Money".

"How is the message delivered?"

Workshops, presentations, and education classes can be a compilation of information that is given to participants in different ways. All respondents that commented on these styles noted that delivery method depended on participant feedback, and degree of formality was flexible by allowing question and answer and lots of discussion. The community kitchens were reported to be very hands-on and interactive. Participants learned by watching others and trying it themselves. They were shown

different types of food, and then cooked it together while the instructor provided information or answered questions.

The Family Health Team program that focused on disease management was delivered one-to-one, with scheduled follow-up appointments. During the appointments, questions were answered, topics were discussed, and strategies were developed. The other Family Health Team program discussed was a program available to all patients on the team's roster, and involved group presentations with activities and homework.

For the community garden program, participants met with the instructor at the garden, discussed how to plant and maintain the crops, and then each carried out the steps. All programs were reported to be provided as a series of sessions, over a certain number of weeks, except for the workshops, community kitchens, and food boxes. The food box programs were offered perhaps once a month, and community kitchens were offered as many times a month as were needed and could be financed, but these programs were not linked as a series.

"Who funds the program?"

Programs were either funded completely by the providing organization (however they receive funding, either by government ministry, their own funding, or otherwise) or shared cost and/or resources with other organizations or local partners. Thirteen out of the nineteen respondents indicated that they have local partners that provide space, funding, or human resources. Two of the food box programs utilized volunteers. Food box programs also required participants to pay a discounted amount for the food boxes.

"Who is the instructor of the program?"

The instructor of the programs depended on the human resources available to each organization. The position titles of program instructors were found to include: Health Educators, Public Health Nurses, Health Promotion Coordinators, Public Health Nutritionists, Public Health Dieticians, Registered Nurses, Family Support Workers, Community Health Workers, Parenting Partners (specific to Healthy Babies Healthy Children), Urban Aboriginal Healthy Living Workers, and Prenatal Nutrition Workers. Local volunteers and local partners were also involved with instructing the programs, and even participants were encouraged to lead discussions or classes if they felt comfortable, as was mentioned for one community kitchen.

"Is there adequate training and support for the instructor?"

All respondents but three reported having enough training and support. Two respondents replied that training is always needed, and one noted that they did not have training in nutrition, but had learned once in the position. One of the remote community respondents felt that there was not enough financial support for needs that were identified besides the specifically funded programs. They did not have access to a budget that would allow flexibility in providing the programs, for example, buying food for a cooking class to show participants how to prepare the foods they were promoting.

"Where is it provided?"

The location of the program depended on local resources. Many programs received donated space from local community centres, recreation facilities, schools, partnering agencies, or community members (such as donated garden space for the community garden). Ten programs utilized donated space within the community to be able to provide the program with the right facilities, such as safe kitchens, or large

enough areas to hold participants. Three programs were provided in donated space within the community in order to access the target population (e.g. Early Years parents or children in school). The organization's building was used if it had enough space, otherwise programs would be provided in what is available in the community that matched the program's needs.

"How often is it provided and how long will it be provided for?"

Six respondents stressed that programs are offered on an as-need basis, especially when resources are limited. Three of these programs were prenatal programs for when there are enough pregnant women in the community, two were workshops, and one was the Hypertension Management Initiative for individual Family Health Team patients. Programs range from being provided once a year (e.g. community gardens) to once a month (many food boxes). Three programs were reported to not be provided in the summer months (two community kitchens and Child Health), as turn out is low this time of year, and the Well Baby and Immunization program from Keewaywin is not offered over the December holidays for this same reason. All the programs that were discussed in questions 2 to 7 were reported to be stable programs for the organizations, as they were planning on providing them in the near future years, although one Family Health Team reported depending on success of the program.

Question 3

"Where did the design of the program come from (was it locally developed or provided by an external organization, or some combination)?"

For the programs discussed in questions 2 to 7 only, two were locally developed, two were developed by external organizations, and two did not know where the design of the program came from. Thirteen programs were some combination of either their own organization's program and their own design, or an external organization's program and their own design. This included adapting a program by changing certain components of it, or getting ideas for the design of their own program by reviewing existing programs or models.

"Is it somehow tailored to the community?"

All respondents indicated that their programs were tailored to their community. This was done in a variety of ways. Each community made use of local resources, such as space, local partners, or volunteers. Keewaywin even made use of the local radio station to deliver their message. Seventeen respondents indicated that their programs also try to engage participants with these local resources by, for example, promoting locally grown foods, using local facilities, and discussing locally relevant information (like grocery store flyers and prices). Many programs are offered on an as-need basis, and all programs tailor to participant feedback. Programs can be flexible in the degree of formality they are provided in, even to the degree of giving advice to parents when the health professional meets them at the post office in town, as was the case in Marathon. All programs showed the general theme of taking into consideration the community's situation, like job losses, food security issues, whether or not participants can afford to pay for programs, or transportation. All programs seemed to be based in community reality to achieve their goals.

"Was culture a consideration in either the development or the implementation of the program?"

Three respondents indicated that culture was not a consideration in the development of their programs, but was a consideration in implementation. For example, the two Family Health Teams and the Keewaywin Well Baby and Immunization program did not have culture as a consideration in the development of their programs, as they were adapted from external programs. Three respondents indicated that they were not sure if culture was a consideration in the development of their programs, but did incorporate it in the implementation. For instance, the Anishnawbe-Mushkiki Community Health Centre and Muskrat Dam incorporated traditional foods in their community kitchens and the Thunder Bay office of the Thunder Bay District Health Unit kept language and literacy level in mind when writing the newsletter to accompany its food box. The two respondents that indicated culture was not a consideration at all were the Fort Frances office of the Nothwestern Health Unit and its food box, and the Manitouwadge office of the Thunder Bay District Health Unit and its prenatal classes. The food box did not consider culture because food choices were based on what was available, and the prenatal classes did not consider culture because there were First Nations prenatal programs available in the community, and that office did not receive Aboriginal participants very often.

The remaining eleven respondents were unclear whether culture was a consideration in the development of their program, but were very clear on having it as a consideration in implementation. This was done by being aware of different dietary concerns, discussing or using traditional foods, or using the First Nations, Inuit, and

Métis Food Guide (Health Canada, 2007b). Four of these respondents made a note that it was more a focus on tailoring to the participants that show up to the program, rather than setting out to include a cultural component.

Question 4

"Do you know if the program is based on a theory?"

Four respondents replied that their program was not based on a theory, six replied yes or possibly, by guessing which theory or stating it was a combination of theories, and nine replied that they were not sure if the program was based on a theory. Social learning theory, the health belief model, and the stages of change theory (maintenance stage) were all mentioned once, with other positive answers being a combination of theories without stating which ones. One respondent mentioned that their program was based on best practices.

Question 5

"What are the challenges in providing the program?"

The many challenges reported by respondents are listed in Table 4 in the left hand column. Funding was the most commonly reported challenge, and there were three different challenges surrounding transportation. Due to large catchment areas and low income levels of many participants, transportation for participants to the program location was listed as a challenge by five participants. Transportation of materials and supplies was also reported as an issue for both places with and without year-round access, although the challenge was magnified in the remote communities, as the cost for

materials is so much more. For the two remote, fly-in communities of Muskrat Dam and Keewaywin, both reported transportation affecting the cost of food. Keewaywin indicated that this often results in 'unhealthy' foods costing less than healthful ones, and the cost of transporting people into the community limits the access to trades people who are needed when there are problems with facilities that local members cannot fix.

Table 4

Program Challenges and Possible Solutions as Listed by Respondents

Challenge	Number of times challenge reported	Possible Solutions
Funding	7	Strategic budgeting, make big-batch recipes and use cheaper shelf ingredients, find a concentration of target group (biggest bang for buck), always seeking out and applying for funding, put a cap on participant number, limit how often the program can run
Transportation of participants	5	Providers travel instead, use provider resources (e.g. a van), coupons for taxis (funded by local coalitions), encourage carpooling, provide programs at convenient times
Time constraints of providers	4	Plan ahead, time management
Availability of fruit and vegetables	4	Be creative with recipes, order ahead for special items
Geographic location	3	
Cost of Food	3	
Recruiting participants	3	Provide free food (reported as an expectation of participants), advertise in the right places, phone call reminders, parent involvement (for kids programs), door prizes/incentives, creating a welcoming environment

Transportation (of participants or supplies) to places without year-round access	3	Use satellite site offices
Space/facilities	3	
Getting participants to come consistently	3	Frequent follow-up (schedule ahead and phone call reminders), include parents in child programs
Cultural challenges	3	
Transportation of supplies/materials to places with access	2	
Timing of program	2	Focus on other things in off-seasons
Shortage of volunteers	2	Partner with Ontario Works, let schools know they need volunteers
Seniors cannot carry groceries home because too heavy	1	
Weather	1	If miss one program day, do it on another
Childcare	1	Provide it as part of the program
Offering programs to meet everyone's needs	1	Keep language level at grade 6 so everyone can participate
Can only offer to patients on the roster	1	
Cost of program for participants	1	
Staffing issues	1	
Limited jobs/many welfare community members	1	

Time constraints of providers was listed as a challenge by four respondents, due to limited staff and the time-consuming nature of certain types of programs, like one-to-one counselling. The timing of the program itself in the year was described as a challenge by those offering community gardens, food boxes, and programs involving outdoor

activities. These respondents further clarified that these outdoor activities may be unsafe in the winter months. A challenge reported by one Family Health Team was that they could only offer their programs to patients that were on their roster. As well, Keewaywin reported cultural challenges such as receptiveness to programs, familiarity with certain non-traditional foods, and a community that used to gather local foods that does not anymore.

Question 6

"How are these challenges overcome?"

In the right hand column of Table 4, the possible solutions reported by respondents for the challenges in Question 5 are listed. There are many empty cells in this column due to the fact that respondents did not have a solution for the challenge.

Question 7

"Given its purpose, do you think the program is effective?"

All respondents replied, "Yes" or "I think so".

"Why or why not?"

The reasons why respondents thought their program was effective were: positive informal feedback from participants (7 responses); observing learned behaviours or skills of participants (6 responses); good turn out or low drop-out rates (5 responses); positive feedback from participant questionnaires (5 responses); helping participants socialize with other community members (3 responses); achieving the goal of the program, such as providing less expensive food or making information available (2 responses); the way it

is taught, for instance, the Thunderbird Friendship Centre in Geraldton used traditional methods (1 response); a positive pilot test evaluation (1 response); and allowing the identification of overmedication or early detection of a condition, indicated by the Machin Family Health Team (1 response).

"Has there been research conducted to evaluate the process or outcomes of the program?"

Eight respondents reported that they do not evaluate their program, but still receive informal feedback from participants. Eleven respondents reported some form of evaluation, which was mainly a questionnaire given to participants upon program completion. Of these eleven, three had evaluation done on the pilot run of the program, and three had external organizations (usually their funding agency) or employees from their organization (e.g. epidemiologists) conducting research on such variables as number of participants.

DISCUSSION

Of the definitions of rural presented in the literature review, the one that suits the region of Northwestern Ontario best would be the OMAFRA (n.d.) definition. This definition posits that all areas in Northwestern Ontario are rural areas except for the City of Thunder Bay. The reason that this definition suits Northwestern Ontario best is that even the City of Thunder Bay, with its population of approximately 120,000 (Thunder Bay Regional Health Sciences Centre [TBRHSC], 2008), is still affected by many rural issues. The city and the organizations within it serve many rural community members and

face challenges surrounding cost of food and transportation due to its proximity to other urban centres. The other communities located in Northwestern Ontario have much lower populations and are dispersed across the vast geographical area; therefore a rural approach seems most appropriate for these areas.

The purpose of this research was to discover what types of health promotion programs were available in Northwestern Ontario, and what some of the challenges, successes, and methodologies were behind providing them. This section will discuss the results of the study by topic, in order of food and nutrition programs offered, program practices, qualities of effective health promotion programs (as outlined in the literature review), challenges and solutions, and implications and conclusions.

Food and Nutrition Programs Offered

A recurring theme in the food or nutrition-related programs was food provision. Community kitchens, food boxes, and other programs that involved providing food were extremely common. The target audiences for these programs were commonly lower income families or marginalized groups (e.g. seniors, Aboriginals), because they could not afford the high-priced fresh foods and/or did not know how to prepare them. Community kitchens were provided to show people how to make healthy food on their own, but mainly their purpose was to provide participants with a meal they could take home to their families. This issue, also known as food security, came up over and over again with respondents by reporting the limited availability and high cost of fresh fruits and vegetables in their communities. In the literature, information on food security was difficult to find, and indicated that about 8% of households in Northern Ontario were

food insecure (Sudbury and District Health Unit, 2003). From the results of this study, it seems that food security can occur on different levels of severity, and that the literature may underestimate the proportion of people that are affected by it in Northwestern Ontario.

Many programs tried to emphasize a healthy lifestyle by incorporating healthy foods into the diet. For the people and places where food is not readily available or affordable, these efforts can be wasted when there is nothing the individual can do to change their diet. Without control over the situation, participants could possibly feel helpless about their food choices. The community garden programs are good examples of programs that aim at empowering community members by teaching them how to grow their own food. These programs give back some control to the individual, and should be expanded in these communities to include more members and more topics such as storing foods over the winter and planning ahead to have enough to last the season. A positive observation from this study is that health professionals living and working in this area seem to identify and deal with the actual problems in existence. People need healthy food and can't access it, so health professionals provide healthy food and teach participants how to grow it themselves (Thunder Bay District Health Unit, 2005b; Northwestern Health Unit, 2008; Food Security Research Network, 2007).

Another common program topic was prenatal, early years, and child nutrition. Many programs were focused on providing food to children and educating parents about healthy eating practices. Although, once again, if parents cannot afford or access healthy foods, then not only do their children not receive the nutrients they need for development, but they grow up without learning what healthy eating practices are, and may be less able

to maintain healthy lifestyles in the future. Education is necessary, but this is another example of how food security is linked so closely with food and nutrition-related health promotion programming.

In terms of the proportion of programs involving food or nutrition offered by each organization, as shown in the results, two Aboriginal communities and two Aboriginal organizations reported having 100% of their health-related programming involving food or nutrition. For the Friendship Centres, their programs were based on traditional methods, which included the medicine wheel and a holistic approach to health. For this reason, all their health programs incorporated food or nutrition to some degree. For the two remote Aboriginal communities, they had a small number of programs, and food security was such an issue that the focus was on providing food or teaching about healthy eating. Although these are a limited number of examples, this may display how food or nutrition health promotion is approached differently from an Aboriginal versus non-Aboriginal perspective. The majority of remote communities in Northwestern Ontario are Aboriginal communities, which makes food security a likely issue. There is also a culture-based emphasis on the role of food in a well-balanced life that is symbolized in the medicine wheel, and reflects a uniquely Aboriginal worldview (Aboriginal Healing and Wellness Strategy, 2006).

Program Practices

In terms of the design of the programs, it was found that not many respondents developed their programs from scratch. It was more common for respondents to be provided a program by their organization or to model their program after existing

external ones. These programs provide examples of the balance between using programs that have been tested and shown to be successful, and creating a new unique program to meet a specific community's needs. A common theme among respondents was multiple tasks and programs to run, with limited time and human resources to run them. This may explain why the majority of programs are modeled after existing ones, as the providers of these programs are already strained enough in terms of workload. Another result of the limited human resources is a balance between community needs and resulting programming. Respondents may not have been able to provide the best program for the problem, but are balancing what they can do about it with what is available to them.

This lack of human resources may also contribute to the trend of relying on informal feedback for evaluation of programs. All respondents thought that their programs were effective, while only just over half of them used some kind of formal evaluation tool. The importance of evaluation is to determine the effect of the program on recipients. There are four circumstances that have been identified where evaluation is not advisable: when there are no questions about the program, when the program has no clear direction, when stakeholders cannot agree on the program objectives, and when there is not enough money to conduct a sound evaluation (Issel, 2004). In this case, the last circumstance seems most fitting. Still, research is needed on the reason why evaluations are not done in some circumstances in Northwestern Ontario, whether this is due to a lack of resources, training in evaluation skills, or the priority level of evaluation by either the health professional or the organization.

Qualities of Effective Health Promotion Programs

The review of the literature produced seven qualities of effective health promotion programs. These qualities were: ensuring interventions are theoretically based, involving the family as a source of support, using participatory models for intervention planning and delivery, delivering clear messages, providing adequate training and ongoing support for interveners (Sahay, Ashbury, Roberts, & Rootman, 2006), and using a rural lens or Aboriginal focus when appropriate (Kinnon, 2002; Watanabe & Casebeer, 2000).

For the health programs discussed in questions 2 to 7, it was inconclusive as to whether or not they were theoretically based. Many respondents were not sure which theory was used, if one was used, because they did not develop the program. The respondents that did develop the program still tended to be unsure if a theory could be applied, but usually did not have one in mind when they were developing it. As many programs were developed by others, or modeled after existing programs, research is needed to explore the development of programs in use in this region of Ontario. More information is needed in this area to find out if the resulting program concepts and goals originated from a theoretically-based program, who it was that developed the original programs, and what the steps involved in that development were.

In terms of involving the family as a source of support, the programs did not tend to state this clearly as a component, but did encourage participation from anyone within the family, or the community. Many programs such as the prenatal, early years, and child nutrition programs and the community garden program involved more than one member of the family (e.g. mothers, fathers and children), but this was dependent on the purpose

and content of the program. The community garden program included parents in order to get children to come consistently.

Participatory models of intervention planning and delivery were certainly in use across the region. Many respondents included potential participants' feedback in planning the programs, and partnered with many agencies and created coalitions for development and implementation. These participatory models stand out as a success of providing health promotion programs in Northwestern Ontario. Sharing of resources such as local facilities, funding, and staff, was very common and aided in avoiding many potential challenges to implementing programs. From respondent feedback, it seemed as though there were many local partners that were willing and enthusiastic about working toward common goals. These local partners ranged from organizations, to coalitions, to local community members that had resources to share (e.g. garden space).

The program delivery was commonly tailored to the participants that attended. An important quality of programs that was identified by respondents was flexibility in delivery style and formality. This flexibility allowed instructors of the program to adjust the content and method of delivery to ensure that the message of the program was clear and understandable. Many programs involved informal discussion and were interactive, allowing easy exchange of information.

The majority of survey respondents felt that they had adequate training and support from their organizations to be able to provide their health programs. While this may be true, it can be inferred that because of some community situations, there may be challenges that this support cannot overcome. It is positive however, that the respondents

felt their organizations provided them with the information and ongoing support to face these challenges.

Approaching rural communities with a rural lens was identified in the literature to be an extremely important factor in providing health programming (Watanabe & Casebeer, 2000). This meant not only approaching a situation with rural definitions and methods, but approaching specific communities at a time, and basing the programs in community reality. The programs that were discussed in the surveys were very tailored to communities. Even when a common program was provided by an organization to more than one community, there was enough flexibility in the implementation to tailor to that community's needs. Perhaps going one step further, these programs also seemed to be tailored to the participants that attended each program. This was done by taking into consideration the participants' needs such as childcare, transportation, and socioeconomic status. Not only were programs aimed at populations or participants that needed the most assistance, they were implemented in such a way that encouraged the participants to show up, interact with each other, and benefit from the program. This was as simple as providing a ride to the program location, free snacks, or childcare while the program was in progress.

Including culture in health promotion programs was also very common in Northwestern Ontario, with the Aboriginal culture being the most common consideration. There are many First Nations communities in Northwestern Ontario, whether they are remote, rural, or included in other communities (e.g. Thunder Bay). The health promotion programs discussed in the surveys reflect this, as many programs incorporated traditional values and foods. The approach to including culture was different between organizations,

with Aboriginal organizations basing their programming in traditional values, and others creating their programs with a western approach. The consideration of culture was a very important aspect of tailoring the programs to the participants. They also tailored to their situation within the community and community resources. This was a more common approach to program planning than simply setting out to include a cultural component. This was identified as an important approach in the literature review, as programs focused on particular people and their situation, not simply Aboriginal versus non-Aboriginal (Hanley et. al., 1995; Ho, Gittelsohn, Harris, & Ford, 2006).

Out of the seven qualities of effective health promotion programs, the programs discussed in the surveys faired quite well. There are a few areas that warrant further research, such as theoretical background and involving the family as a source of support. Where the programs proved successful was in using participatory models for intervention planning and delivery, having adequate training and ongoing support for interveners, delivering clear messages, using a rural lens, and using an Aboriginal focus.

Challenges and Solutions

When discussing health promotion at the regional level of Northwestern Ontario, there were many challenges reported that are recurring and unique to the north. Many of these challenges simply could not be overcome, such as geographic location, climate and weather conditions, and timing of programs during the year. There were also challenges that are extremely expensive and labour-intensive to overcome, such as transportation, cost of food, availability of food, facilities, human resources, funding, and education and

job opportunities. At the community level, there were challenges that further depended on the community, its resources, its location, and its situation.

In Keewaywin, there were challenges reported that were associated with culture specific to the community. As a remote Aboriginal community, local members used to gather much of their food, but have lost this tradition. This displays the shift from a traditional food system to modern foods that may be responsible for poorer diet. Fruits and vegetables are limited and expensive in this community because they are flown-in. As community members have stopped this gathering, the knowledge of this practice does not get passed on to future generations, and along with the tradition, a part of their culture is lost. For more information on this topic, read *Dietary Change and Traditional Food Systems of Indigenous Peoples* (Kuhnlein & Receveur, 1996).

Recruiting participants was reported as a challenge, which may seem surprising as the purpose of many programs was to provide free food to participants. This may be associated to the challenge of transportation that was also reported. There were three separate challenges surrounding transportation reported by respondents, and the one involving transportation of participants to the program location must be frustrating for program providers. For a simple problem of needing a ride to the program, this prevents access to the target population. Some providers tried to overcome this problem by creating coalitions that could fund taxi rides or share resources (e.g. their van). This demonstrates how simple problems with simple solutions can still result in poor health consequences when resources are not available to produce the solution. The issues surrounding transportation further reiterate the rural issues identified in the literature. These issues are not only for transportation of food, but of participants as well.

Funding was the most commonly reported challenge with the most obvious solution. Increasing funding could compensate for many of the immediate challenges listed by respondents, such as providing transportation, childcare, or more programs. Its limitations are reached however, when it faces the more encompassing issues like availability and cost of food or job opportunities. Funding is limited due to the low population numbers and density of this region, and in order to solve many of these challenges, a more comprehensive approach is needed.

The challenges that the remote communities faced were amplified by their limited access and cost of transportation. These remote communities are examples of when food and nutrition education can possibly be wasted, due to the cost of nutritious foods exceeding family incomes. When the cost of packaged, processed, and unhealthy foods is within family means and nutritious foods are not, the result is babies and children drinking pop instead of milk, or eating chips instead of vegetables. These challenges cannot be overcome by community members unless the whole community changes, by creating job opportunities, increasing local food supply, or lowering food costs. Community change does not come easily; it is a complex, difficult, and long-term process.

As these challenges transcend many ecological levels, such as intrapersonal, interpersonal, organizational, community, and public policy, the responsibility for these issues is also spread across these levels. A comprehensive cooperative approach between municipal, provincial, and federal ministries as well as private organizations within these communities is required, along with a strong emphasis on shared responsibility. Research is needed on these challenges that face communities, their processes, and resulting health

consequences. This research needs to be conducted in Northwestern Ontario specifically, as these challenges are unique to the area and the communities within it.

Limitations

Due to the nature and distribution of health organizations in Northwestern Ontario, there were multiple surveys answered by the same organization. This is not seen as a limitation of the study, because these are the organizations in existence in the communities, and each branch office must deal with its own community-level issues. As well, even though the public health units are mandated by the *Ontario Public Health Standards* (Minster of Health and Long-Term Care, 2008) to provide programs on certain topics, the community in which the programs will be implemented has an impact on the program choice, delivery style, and resources available for use. Therefore, it was important to include each branch office of the identified health organizations for sampling. The Thunder Bay District Health Unit and other Thunder Bay organizations, which were defined as urban, were included because they had branch offices in rural communities, and/or could be used in comparisons.

The survey had to be modified due to time constraints of the participants. Seeing as all respondents had more than one program involving food or nutrition, time would only allow questions 2 through 7 to be answered for one health program. This modification was consistent across all surveys done. Survey participants were instructed to choose one health promotion program that most involved food or nutrition, instead of answering these questions for each health program involving food or nutrition identified in question 1.

The most challenging aspect of this research study was contacting survey participants, especially in remote communities. Contact information was difficult to find and many phone numbers were out of service. Once contact was made in a community, often the result was being forwarded to other phone numbers. These numbers then may or may not have led to survey completion. The result of this challenge was 19 survey respondents: four from Thunder Bay and only two from remote communities. This may affect the representativeness of the sample of Northwestern Ontario. Although this may affect the generalizability of this information, the difficulty in contacting participants demonstrates the issue of access, not only to these communities physically, but of their access to other organizations and new information. It also demonstrates how different the approach to health promotion is in Northwestern Ontario versus urban areas. Often times the only issue in making contact with rural or remote health professionals was that they were out in the community instead of working in the office.

Part of the purpose of this research was to find out what kind of health promotion programs involving food or nutrition existed in Northwestern Ontario, and where these programs were located. The result of this research was a glimpse into what types of programs are available and where they are provided. A complete list of programs was not able to be obtained due to the large geographical area, and the nature of health promotion programs in terms of level of formality and consistency. For question 1, respondents were often reciting from memory, or were unable to list all health programs due to the sheer volume of them. As well, health promotion programs in this region are provided by so many local organizations and can be defined in such broad terms that a complete list of these programs proved to be an unrealistic goal.

Implications and Conclusions

For future research in this area, a better approach would be a smaller scale, with research conducted in one community at a time. To get a more complete picture of what health promotion programs are being offered in a community, a great place to start is with the local branch of the public health unit, as this is a good source of information about the area and its local partners. From there, creating good relationships with local health professionals and community members, as well as visiting the community if possible, would provide the best results. Contact the existing organizations and request documented complete lists of their health programs, but keep in mind that these programs are constantly changing. The organizations contacted in this research study often had websites with lots of information and resources posted, but there may be more information that the health professionals can provide, such as the Northwestern Health Unit and their booklet on food access providers in their districts.

Approaching Northwestern Ontario in a smaller scale, one community at a time, will provide a better picture of health promotion in this region. These communities are incredibly unique, and this approach will result in understanding what programs are in existence in each community, who is involved in providing them, and the unique challenges faced by each.

Overall, the results of this research support existing literature. There were many rural, remote, and First Nations issues uncovered that were already identified in the literature, as well as insight into a few community-specific ones. What the most prominent result may be however, is that food security is as much a part of food and

nutrition health promotion as is education. In Northwestern Ontario, these two concepts go hand-in-hand. Food and nutrition education efforts can be wasted when the food that is being promoted is not available, or cannot be purchased because of cost. This study set out with food and nutrition education and learning as its primary focus and quickly discovered that food security plays a great role in this as well. Future research on health promotion involving food or nutrition in Northwestern Ontario should keep this in mind.

References

Aboriginal Healing and Wellness Strategy. (2006). *Culture and approach.* Retrieved March 23, 2009, from http://www.ahwsontario.ca/about/cultureandapproach.html

Allan, J., Ball, P., & Alston, M. (2007). Developing sustainable models of rural health care: a community development approach. *Rural and Remote Health, 7,* Article 818.

Baumann, A., Hunsberger, M., Blythe, J., & Crea, M. (2008). Sustainability of the workforce: Government policies and the rural fit. *Health Policy, 85(3),* 372-379.

Canadian Institute for Health Information. (2006). *How healthy are rural canadians? An assessment of their health status and health determinants.* Retrieved September 19, 2008, from http://www.cihi.ca/cihiweb/products/acknowledgements_rural_canadians_2006_report_e.pdf

Canadian Public Health Association, World Health Organization. (1986). *Ottawa charter for health promotion.* Ottawa: Health and Welfare Canada. Retrieved October 22, 2008, from http://www.who.int/hpr/NPH/docs/ottawa_charter_hp.pdf

Carroll, K.K. (Ed.). (1990). *Diet, nutrition, and health.* Canada: McGill-Queen's University Press. [Electronic Version].

Chiefs of Ontario. (2005). *About us.* Retrieved September 19, 2008, from http://www.chiefs-of-ontario.org/

Curtis, L.J. (2007). *Health status of on and off-reserve aboriginal peoples: analysis of the aboriginal peoples survey.* [Electronic version]. Hamilton: McMaster University.

First Nations Centre. (2004). *First nations and inuit regional health surveys, 1997: A synthesis of the national and regional reports.* National Aboriginal Health Organization. Retrieved September 24, 2008, from http://rhs-ers.ca/english/pdf/rhs1997/rhs_1997_synthesis_report.pdf

Food Security Research Network. (2007). *About us.* Retrieved October 31, 2008, from http://www.foodsecurityresearch.ca/?page_id=2

Fort William First Nation. (n.d.). *Fort william first nation.* Retrieved March 23, 2009, from http://www.fwfn.com/chiefcouncil.htm

Garriguet, D. (2008). *Obesity and the eating habits of the aboriginal population.* Statistics Canada. Retrieved October 4, 2008, from http://www.statcan.ca/english/freepub/82-003-XIE/2008001/article/10487-en.pdf

Government of Ontario. (2008). *Population and densities.* Retrieved September 18, 2008, from http://www.gov.on.ca/ont/portal/!ut/p/.cmd/cs/.ce/7_0_A/.s/7_0_252/_s.7_0_A/7_0_252/_l/en?docid=EC001035

Hamilton, N. & Bhatti, T. (1996). *Population health promotion: An integrated model of population health and health promotion.* Public Health Agency of Canada. Retrieved October 22, 2008, from http://www.phac-aspc.gc.ca/ph-sp/php-psp/index-eng.php

Hanley, A.J.G., Harris, S.B., Barnie, A., Gittelsohn, J., Wolever, T.M.S., Logan, A., & Zinman, B. (1995). The sandy lake health and diabetes project: Design, methods and lessons learned. *Chronic Diseases in Canada, 16(4).* Public Health Agency of

Canada. Retrieved October 22, 2008, from http://www.phac-aspc.gc.ca/publicat/cdic-mcc/16-4/d_e.html

Harvey, D., Hook, E., McKay, M., Cepanec, D., & Gelskey, D. (2001). Enhancement of rural community committee for heart health promotion in manitoba. *Promotion & Education, Suppl. 1*, 31.

Health Canada. (2007a). *Eating well with canada's food guide.* Retrieved October 16, 2008, from http://www.hc-sc.gc.ca/fn-an/alt_formats/hpfb-dgpsa/pdf/food-guide-aliment/view_eatwell_vue_bienmang-eng.pdf

Health Canada. (2007b). *Eating well with canada's food guide: First nations, inuit, and metis.* Retrieved October 16, 2008, from http://www.hc-sc.gc.ca/fn-an/alt_formats/fnihb-dgspni/pdf/pubs/fnim-pnim/2007_fnim-pnim_food-guide-aliment-eng.pdf

Ho, L. S., Gittelsohn, J., Harris, S. B., & Ford, E. (2006). Development of an integrated diabetes prevention program with first nations in canada. *Health Promotion International, 21(2)*, 88-97.

Indian and Northern Affairs Canada. (2004). *Nutrition and food security in fort severn, ontario: Baseline survey for the food mail pilot project.* Retrieved October 17, 2008, from http://www.ainc-inac.gc.ca/ps/nap/air/forsev/toc_e.html

Indian and Northern Affairs Canada. (2008a). *The revised northern food basket.* Retrieved October 16, 2008, from http://www.ainc-inac.gc.ca/ps/nap/air/nfb-eng.asp

Indian and Northern Affairs Canada. (2008b). *Revised northern food basket - Highlights of price survey results for 2006 and 2007.* Retrieved October 17, 2008, from http://www.ainc-inac.gc.ca/ps/nap/air/hpsr0607-eng.asp

Indian and Northern Affairs Canada. (2008c). *Information sheet: Food mail.* Retrieved October 17, 2008, from http://www.ainc-inac.gc.ca/ps/nap/Air/inf_e.html

Issel, L. M. (2004). *Health program planning and evaluation: A practical, systematic approach for community health.* Sudbury, MA: Jones and Bartlett.

Katz, L.Y., Elias, B., O'Neil, J., Enns, M., Cox, B.J., Belik, S., & Sareen, J.(2006). Aboriginal suicide behaviour research: From risk factors to culturally-sensitive interventions. *Journal of the Canadian Academy of Child and Adolescent Psychiatry, 15(4),* 159-167.

Kinnon, D. (with National Aboriginal Health Organization). (2002). *Improving population health, health promotion, disease prevention and health protection services and programs for aboriginal people.* Retrieved October 27, 2008, from http://www.naho.ca/english/pdf/research_pop_health.pdf

Kreuter, M.W., Lezin, N.A., Kreuter, M.W., & Green, L.W. (1998). *Community health promotion ideas that work: A field-book for practitioners.* Sudbury, MA: Jones and Bartlett Publishers Inc.

Kuhnlein, H. V. & Receveur, O. (1996). Dietary change and traditional food systems of indigenous peoples. *Annual Review of Nutrition, 16,* 417-442.

Lightfoot, N., Strasser, R., Maar, M., & Jacklin, K. (2008). Challenges and rewards of health research in northern, rural, and remote communities. *Annals of Epidemiology, 18*, 507-514.

Mikhailovich, K., Morrison, P., & Arabena K. (2007). Evaluating australian indigenous community health promotion initiatives: a selective review. *Rural and Remote Health, 7*, 746.

Minister of Health and Long-Term Care. (2008). *Ontario public health standards 2008.* (ISBN 978-1-4249-7576-1). Retrieved January 23, 2009, from http://www.health.gov.on.ca/english/providers/program/pubhealth/oph_standards/ophs/progstds/pdfs/ophs_2008.pdf

Nishnawbe Aski Nation. (2007). *Land, culture, community.* Retrieved March 11, 2009, from http://www.nan.on.ca/article/land-culture-community-120.asp

Northwestern Health Unit. (2008). *Chronic disease prevention nutrition.* Retrieved October 31, 2008, from http://www.nwhu.on.ca/programs/health-promotion-cdp-nutrition.php

Nutrition Resource Centre. (2008). *Our programs*. Retrieved October 30, 2008, from http://www.nutritionrc.ca/programs/index.html

Ontario Ministry of Agriculture, Food, and Rural Affairs. (n.d.). *Rural ontario profile.* Retrieved October 9, 2008, from http://www.reddi.gov.on.ca/insight_ruralontarioprofiles.htm

Ontario Ministry of Government Services. (2005). *The changing shape of ontario: a guide to boundaries, names, and regional governments.* Retrieved October 9, 2008, from http://www.archives.gov.on.ca/english/exhibits/maps/index.html

Ontario Ministry of Health and Long-Term Care. (2002). *Health update: Heart health.* Retrieved October 30, 2008, from

http://www.health.gov.on.ca/english/public/updates/archives/hu_03/hu_hearthealth.html

Ontario Ministry of Health and Long-Term Care. (n.d.). *Backgrounder: Strengthening public health in muskoka-parry sound.* Retrieved October 9, 2008, from http://www.health.gov.on.ca/english/media/news_releases/archives/nr_05/bg_030905.pdf

Ontario Ministry of Health Promotion. (2006). *Ontario's action plan for healthy eating and active living.* Retrieved October 30, 2008, from http://www.mhp.gov.on.ca/english/health/HEAL/actionplan-EN.pdf

Ontario Ministry of Health Promotion. (2007). *Evaluation of the northern fruit and vegetable pilot program (NFVPP) Final report.* Public Health Research, Education, & Development Program. Retrieved October 31, 2008, from http://www.mhp.gov.on.ca/english/health/HEAL/NFVP-English-Final_EN.pdf

Ontario Ministry of Municipal Affairs and Housing. (2008). *OnRAMP.* Retrieved October 9, 2008, from http://www.mah.gov.on.ca/Page64.aspx

Panagiotopoulos, C., Rozmus, J., Gagnon, R.E., & Macnab, A.J. (2007). Diabetes screening of children in a remote first nations community on the west coast of canada: Challenges and solutions. *Rural and Remote Health, 7*, 771.

Romanow, R.J. (with the Commission on the Future of Health Care in Canada). (2002). *Building on values: The future of health care in canada, final report.* Retrieved November 3, 2008, from http://www.cbc.ca/healthcare/final_report.pdf

Sahay, T.B., Ashbury, F.D., Roberts, M., & Rootman, I. (2006) Effective components for nutrition interventions: A review and application of the literature. *Health Promotion Practice, 7(4),* 418-427.

Service Canada. (2007). *Population characteristics for northwestern ontario, economic region 595, census 2001.* Retrieved October 10, 2008, from http://www1.servicecanada.gc.ca/en/on/lmi/eaid/ore/cen01/no/595pop.shtml

Shah, C.P. (2003). *Public health and preventive medicine in canada* (5th ed.). Toronto: Elsevier Canada.

Sheinfeld Gorin, S. & Arnold, J. (Eds.). (2006). *Health promotion in practice* (1st ed.). San Francisco: Jossey-Bass.

Snelling, S. (with Beyers, J., Froats-Emond, C., & Horbul, B.A.). (2000). *Influences and promotion strategies for fruit and vegetable consumption in northern ontario.* Sudbury & District Health Unit: Public Health Research, Education, & Development (PHRED) Division. Retrieved October 31, 2008, from http://communities.mysudbury.ca/Sites/foodsecurity/Food%20Security%20Reports/Influences%20and%20Promotion%20Strategies%20for%20Fruit%20and%20Vegetable%20Consumption%20in%20Northern%20Ontario.doc

Statistics Canada. (2001). *Aboriginal identity population, percentage distribution, for canada, provinces and territories - 20% sample data.* Retrieved September 18, 2008, from http://www12.statcan.ca/english/census01/products/highlight/Aboriginal/Page.cfm?Lang=E&Geo=PR&View=1a&Code=0&Table=2&StartRec=1&Sort=2&B1=Distribution01&B2=Total

Statistics Canada. (2005). *Population urban and rural, by province and territory (Canada).* Retrieved September 18, 2008, from http://www40.statcan.ca/l01/cst01/demo62a.htm

Statistics Canada. (2007). *2006 census dictionary: Rural area (RA).* Retrieved October 9, 2008, from http://www12.statcan.ca/english/census06/reference/dictionary/geo042.cfm

Strong, K., Trickett, P., Titulaer, I., & Bhatia, K. (1998). *Health in rural and remote australia: The first report of the australian institute of health and welfare on rural health.* Australian Institute of Health and Welfare. Retrieved September 24, 2008, from http://www.aihw.gov.au/publications/phe/hrra/hrra.pdf

Sudbury and District Health Unit (with the Northern Ontario Perinatal and Child Health Survey Consortium). (2003). *Nutrition in northern ontario.* Retrieved October 17, 2008, from http://www.sdhu.com/uploads/content/listings/NOPCHSNutritionReportFINAL-Dec-03.pdf

Thunder Bay District Health Unit. (2005a). *Healthy eating for life!.* Retrieved October 31, 2008, from http://www.tbdhu.com/HealthyLiving/HealthyEating/

Thunder Bay District Health Unit. (2005b). *Healthy living: Northwestern Ontario food/food security.* Retrieved March 23, 2009, from http://www.tbdhu.com/HealthyLiving/HealthyEating/FoodSecurity/

Thunder Bay Regional Health Sciences Centre. (2008). *Thunder Bay, Ontario.* Retrieved October 10, 2008, from http://www.tbrhsc.net/patient_information/thunder_bay_information.asp

Watanabe, M. & Casebeer, A. (2000). *Rural, remote, and northern health research: The quest for equitable status for all canadians*. Retrieved September 19, 2008, from http://www.atl.ualberta.ca/ruraldevsurvey/content/FinalReport000120.pdf

World Health Organization. (2008a). *The determinants of health.* Retrieved October 16, 2008, from http://www.who.int/hia/evidence/doh/en/index3.html

World Health Organization. (2008b). *WHO/FAO release independent expert report on diet and chronic disease.* Retrieved October 16, 2008, from http://www.who.int/mediacentre/news/releases/2003/pr20/en/

Young, T.K., Reading, J., Elias, B., & O'Neil, J.D. (2000). Type 2 diabetes mellitus in canada's first nations: status of an epidemic in progress. *Canadian Medical Association Journal, 163 (5),* 561-566.

Appendix A

Survey

The numbered questions are the survey questions, and the lettered questions are probing questions that are allowed. Clarification or elaboration can be requested as well.

1. Please list the health programs that are currently offered at (name health centre). Health programs can be workshops, volunteer programs, promotion programs targeted at specific populations, or programs for the whole community.
    a. Do any of these programs involve food and/or nutrition?

For one food or nutrition program listed:

2. Please describe the program:
    a. What is its purpose and content?
    b. Who is the target audience or beneficiary?
    c. What is the main message of the program?
    d. How is the message delivered?
    e. Who funds the program?
    f. Who is the instructor of the program?
    g. Is there adequate training and support for the instructor?
    h. Where is it provided?
    i. How often is it provided and how long will it be provided for?
3. Where did the design of the program come from (was it locally developed or provided by an external organization, or some combination)?
    a. Is it somehow tailored to the community?
    b. Was culture a consideration in either the development or implementation of the program?
4. Do you know if the program is based on a theory?
    a. For example, if focused on education and learning, behaviour change theories may include: social learning theory, health belief model, self-efficacy, stages of change model, theory of planned behaviour.
5. What are the challenges in providing the program?
6. How are these challenges overcome?
7. Given its purpose, do you think the program is effective?
    a. Why or why not?
    b. Has there been research conducted to evaluate the process or outcomes of the program?

Appendix B

Cover Letter and Consent Script

My name is Stephanie Collins and I am completing a Master of Public Health through Lakehead University, and for this degree I have to complete a research project. I decided to do research on health promotion programs based on food and nutrition in rural and First Nations communities of Northwestern Ontario because there isn't much research on the topic, especially in Northwestern Ontario.

The purpose of this research is to find out what kind of programs are being offered and where, and what some of the challenges and successes are. I hope to bring all this information together in a report that can be distributed to anyone that is interested, and I would certainly make it available to you once it is complete.

Your part will involve a survey of 7 questions, which should take about half an hour depending on how many programs involve food and nutrition. The questions aim to get a description of the programs and the challenges and methods behind providing them. They are open-ended questions because I am interested in getting your full perspective on the programs you're involved in.

The survey will be anonymous and I will not include any personal information in the final report, and you can stop the survey at any time or skip any questions you don't feel comfortable answering. This project is supervised by a professor at Lakehead, Mirella Stroink, and has ethics approval from the university. The data that you provide will be stored at Lakehead University for five years. Do you consent to participating in this research?

Appendix C

Debriefing Script

As I mentioned, the purpose of the study is to gather information on health promotion programs involving food and nutrition in rural and First Nations communities in Northwestern Ontario. The information you have provided will be combined anonymously with the information we received from others, and will be used in a report on these programs. I will make this report available to you if you like, once it is complete. Would you like to receive a copy of this report? Do you have any questions about the study? If you have any questions about the study in the future, please feel free to contact me by email at scollin1@lakeheadu.ca, or through my supervisor by phone at (807) 346-7874. I would like to thank you for participating in this study, I really appreciate your cooperation.

Appendix D

Certificate of Completion

This is to certify that

Stephanie E Collins

has completed the Interagency Advisory Panel on Research Ethics'
Introductory Tutorial for the
Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS)

Issued On: November-12-2008

Appendix E

DISTRIBUTION OF PARTICIPANTS IN NORTHWESTERN ONTARIO