

Patterns of vulnerability:

Visualizing Northern Canadian food insecurity

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1 Introduction

The Canadian North is a vast expanse of mostly uninhabited tundra and ice, accounting for almost forty percent of the country's land mass. Though remote and often isolated from the rest of the country, the inhabitants of Canada's North represent an important piece of Canadian identity, culture and economy. The mostly Aboriginal population that resides in communities above the 60th parallel is a resilient community which faces unique difficulties as a result of their location. The presence of food insecurity in Canada is an issue across all provinces and territories, but especially the North. The disparity in the prevalence of food insecurity in the North compared to the South is staggering; surveys of the North have reported as much as triple the percent of food insecurity among households compared to Southern regions. This heightened insecurity in financial and physical access to necessary food coincides with similarly elevated health and social disparities between Northerners and the general population of Canada. Food insecurity has implications on physical and mental health and wellbeing for adults, but even more so for children and their development. Also at risk are social ties and the preservation of Aboriginal traditions. The southern movement of younger generations, environmental factors, and a shift towards market and imported diets among Aboriginal peoples is leading to serious cultural loss. Though the severity of the situation has been addressed through various studies, reports and government funding, there is still a downward trend when it comes to food security in Canada, and especially in the North. The "pattern of vulnerability" (Tarasuk, Mitchell 2015, 12) therefore needs further attention. The state of awareness needs to be broadened in order to provide adequate regulatory action towards the resolution of food insecurity and its implication on northern residents. This study offers a glimpse into Northern Canadian life while advocating for a serious human rights issue currently affecting the area.

There are many government agencies, organizations and funds focused on the health and wellbeing of Canadians affected by food insecurity. The Canadian Community Health Survey (CCHS) has been collecting national data on food insecurity since 2004 through its annual Household Food Security Survey Module. The collection of the data, while optional for individual provinces and territories, provides a glance at the presence of food insecurity in communities. The past several years have shown increasing food insecurity numbers across most participating provinces and territories, especially the territories. This issue has not gone unnoticed by the Canadian public; both media and academic attention have shed light on Northern Canadian food insecurity. However through the

research conducted for this investigation no notable attempt to visually communicate food insecurity information and data was found. If the methods currently in place to address and remedy this situation are not proving completely successful, what else can be done to increase the state of awareness, and further, provide positive action? What insights can be generated through visualizing the data? The opportunity to visualize the data in a compelling narrative may provide a unique opportunity to highlight food insecurity in the Canadian North, the factors contributing to the issue, and the implications it has on the Canadian people.

The population of Northern Canada has historically been an Aboriginal population. Though remote community locations make the availability of market and imported food logistically difficult, the Aboriginal peoples who inhabit the North have traditionally supplemented their diets through traditional hunting and gathering. Many factors, including environmental changes, improved transportation methods and—most significantly—the systematic disempowerment of Aboriginal traditions, have caused Aboriginal populations to become less reliant on the land for food. In addition, factors such as the market (retail) food system, environmental warming, and rights and governance all play a role in the development of an insecure food environment in Northern Canada. While “many initiatives have addressed the food insecurity of northern Aboriginal peoples, including federal food mail programs (from the 1960s to 2011), [and] food subsidy programs such as Nutrition North Canada” (Council of Canadian Academies 2014, 4), the issue persists.

The implications of this study is directed across involved stakeholders. The obvious audience is individuals in positions of power in terms of regulation and governance surrounding this issue; Members of Parliament in the affected areas who are advocating for federal attention and resources; policy makers at the federal level who are in charge of the distribution of such resources. In addition, attention should be given to the affected individuals themselves. The issues being faced by Northern residents in relation to food security give them unique, first-hand insights into what processes are beneficial, which are not, and where the gaps remain for additional support. The idea of food sovereignty is therefore integral to this investigation.

Both qualitative and quantitative considerations are essential to framing the full and complex issue of Northern food insecurity. Food insecurity can be examined in the context of its many contributing factors. The data sources for this study include the results from the CCHS Food Security Survey

Module, as well as supplementary data collected through other Statistics Canada surveys. The relationships and patterns from the treatment of the data will ultimately provide an interface that can foster insights into food insecurity in the Canadian North.

2 Cultural and historical background

Defining key players; terminology and scope

Let's preface the investigation with a brief introduction of key terminology. Food security and insecurity are global conditions; this project works within the Canadian context of key terms in order to focus the scope of the food insecurity through a Canadian lens. Canada defines food insecurity by the definition given by the Food and Agriculture Organization (FAO) of the United Nations; in order for food security to exist, "all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (United Nations Food and Agriculture Organization, 1996). Food insecurity exists when this standard is not met. Health Canada categorizes the phenomenon into moderate food insecurity, occurring when "the quality and/or quantity of food consumed were inadequate," and severe food insecurity, occurring when an individual "reduced their food intake and/or experienced disrupted eating patterns" (Roshanafshar, Hawkins 2015). The term food insecurity will henceforth encompass both moderate and severe food insecurity unless otherwise noted.

For the purposes of this study, the 'Canadian North' refers to Canada's three territories: the Yukon, the Northwest Territories and Nunavut. The 60th parallel is the mainland boundary between the territories and four of the western provinces, however there are geographical areas of the territories which dip below this latitude. Regions of the global circumpolar north can be categorized into four basic levels of health status, based on health indicators and differences between northern and southern, and indigenous and non-indigenous residents (Nymand Larsen, Fondahl 2014, 302). Canada's North is divided between two of these categories. Following the Nordic countries, which rank highest, the Yukon and the Northwest Territories (along with Alaska) have health statuses comparable to the Canadian national average but significant differences between indigenous and non-indigenous populations. Nunavut (along with Greenland) has a predominantly indigenous population and a large gap in health status compared to the national average, and ranks just above the Russian Arctic.

Through the Canadian Constitution (1982), the indigenous people of Canada are legally referred to as the Aboriginal Peoples, and specified as including three groups: Indian, Inuit and Métis (Tuisku, Osgood 2011, 13).

Food insecurity within life and culture in Canada's North

The current landscape of food insecurity in Northern Canada has emerged from a cycle of external stresses acting upon local determinants (Ford, Beaumier 2011) over recent decades. The integrated nature of this multi-faceted phenomenon must be broken down into its contributing components in order to offer a contextualized and well-framed presentation of the current status of the issue, before considering strategic solutions. Also critical to note are the implications of food security, in both a general sense, and specific to residents of Northern Canada. The following discussion highlights the major factors that have been at play in the shaping of the current nature of food insecurity in Northern Canada; globalization and environmental changes, as well as the distinct local factors that stem from them, and the related implications.

Development and change over time

Once associated mainly with transient mining communities, Canada's north has evolved into a vibrant and increasingly significant part of the nation's social and economic spheres. The forces behind this transition most notably include "climate change and industrial development" which "continue to impact northern ecosystems and communities" (Council of Canadian Academies 2014, 2) in both beneficial and detrimental ways. While increased development brings modern opportunities north, a strain is felt on rural communities as youth are drawn away from traditional livelihoods to the new possibilities of the urban city. Modern issues associated with the recent financial and economic downturn are also prevalent in the newly developing North. The gap between those living in poor versus upper and middle income segments has been widening across Canada, but particularly in the North (United Nations, General Assembly 2012). Increasing commercialization puts pressure on traditionally financially unimpeded activities. As a people tied closely to nature living in an especially vulnerable landscape, climate change can have detrimental effects on northern Aboriginal populations. Climate change acts as "a major factor in the deteriorating food and water security situation in the Arctic" (Nyman Larsen, Fondahl 2014, 308) by causing reduced ice coverage, changing migratory

patterns of wildlife, difficulties in transportation and food storage, and a compromised opportunity for traditional hunting and gathering. As powerful catalysts for change, northern urbanization and the changing climate act as external stresses on local determinants; creating “socioeconomic and environmental changes... [putting] new groups at risk of marginalization”. The specific local determinants of food insecurity stemming from these overarching forces are important to study independently, and in combination, to determine where vulnerability exists and where there are opportunities for intervention.

Human rights and public health issues; implications of food insecurity

Recently deemed “a serious public health problem” (Tarasuk, Mitchell 2015, 6) as well as an issue of human rights (Council of Canadian Academies 2014), the implications of food insecurity on Canada’s North are felt in both the health and cultural well-being of its residents. In order to strategize for future prevention, a holistic approach must be taken to address the “pattern of vulnerability” (Tarasuk, Mitchell 2015, 12) which marks the region.

Households affected by food insecurity range from unattached adults to families with multiple children. It is important to note that while compromised access to food has staggering effects on any affected individual, there are also effects distinct to certain age groups. In general, food insecure individuals experience less than average health, development of chronic conditions, reduced ability to perform daily tasks due to health conditions, depression and a “perceived lack of social support” (Roshanafshar, Hawkins 2015). When faced with food insecurity, adults caring for children often compromise their own well-being by reducing their food consumption to mask the severity of the situation from their children, and to ensure adequate nutrition for other family members. Chronic conditions such as high blood pressure, obesity and diabetes are often consequences of this reduction in healthy eating; the management of which in turn may become stressed due to further compromised nutrition and limited finances. Children experiencing food insecurity may not be consuming the variety and quantity of nutrients recognized with ensuring healthy development and growth. The deficiencies in vitamins and minerals faced by food insecure children can lead to chronic disease, obesity and developmental issues.

Aboriginal populations in Northern Canada have historically survived off of, or supplemented a store bought diet, with ‘country foods’. Country foods (also called traditional foods) “derived from hunting and fishing are important components of the food systems, and [can] include ringed seal, caribou, Arctic char, walrus, beluga whale, and narwhal, and a variety of wild berries” (Ford, Beaumier 2011, 46) depending on geographic location and seasonal patterns. Many factors—discussed in the following sections—have lead to a dietary transition among northern Aboriginal people in recent years; characterized by a shift “from ‘traditional’ foods based on hunting and fishing to a ‘western’ type of diet” (Nymand Larsen, Fondahl 2014, 311). The recent dependence on store bought foods consistent with a ‘western’ diet have also brought ‘western’ type health problems typically not common among Aboriginals who maintain a country diet, including those mentioned above; obesity, diabetes and other chronic diseases. Beyond health ramifications are the implications on the well-being of cultural identity. Northern Aboriginal peoples associate the act of living off the land, as well as the consumption of collected country foods, as “components of well-being” that are “vital to many household’s well-being and cultural identity” (434). As dietary transitions take place, this identifying component of well-being may experience a correlated deterioration. The determining factors of this dietary transition in the North are worth noting in order to contextualize the phenomenon and highlight the need for the preservation of Northern Aboriginal traditions.

In a quickly developing world, adapting cultural traditions is difficult. The combined effects of social, environmental and economic factors over the past 50 years have led to a decline in the passing-down and implementation of cultural knowledge for Northern Canada’s Aboriginal populations. This determinant of food insecurity is inherently generational in nature as Aboriginal peoples have had a long history of passing down cultural insights from generation to generation in order to preserve traditions essential to their cultural and functional identity. Canadian Aboriginal people have historically been recipients of repugnant acts of social and cultural abuse and neglect, creating “intergenerational consequences, many of which have critically impacted the social and cultural fabric of Aboriginal communities’ identities” (Council of Canadian Academies 2014, 3). These marginalizing experiences have left many groups vulnerable to the negative side of urbanization and climate change previously discussed. Development in Northern communities has introduced a proliferation of market foods to the typically traditional diets of residents. As commercialization of hunting practice has left Aboriginal hunter gatherers grappling with the increasing cost of necessary equipment, many families

must rely more heavily on market food to supplement their diet. In addition, changing climates and geographical features has caused migratory shifts in the wildlife typically hunted as country food. These factors, along with changing tastes among younger generations, are contributing to the recent decline in “harvesting activities and the consumption of country food” (Public Policy Forum 2015, 4) among Northern Aboriginal communities. Even if families do possess the traditional skills and knowledge, they “may not have the funds to purchase equipment for hunting or cookware to make nutritious meals” (5).

Northern Canada is a largely undeveloped region of the country. Air transportation is typically the only year-round form of transportation for remote and isolated communities; while ice-roads may be available on a seasonal basis. The limited transportation options for shipping in market food have led to notoriously high market food costs in remote northern communities. The extreme food costs often cause financially challenged families to choose less expensive, and typically less nutritious, options when highly nutritious country food are inaccessible (United Nations, General Assembly 2012). Preventative initiatives are therefore focusing on “the necessary life skills and knowledge, such as food storage, preparation, and acquisition” (Public Policy Forum 2015,4) in regards to both country and market foods. Education around life skills essential to ensuring food security are now being introduced in northern schools and communities through strategic initiatives and policy. Successful initiatives include the *Core Recipe Project*¹, *Aullak*, *Sangilivallianginnatuk*², and the Northern Farm Training Institute (NFTI)³. The key to the success of such programs include the consideration of “local food culture and the ways in which people manage food in their community” (Public Policy Forum 2015, 4) and the continuation of intergenerational passing of cultural knowledge, which has the momentum to be carried forward into future prevention (Public Policy Forum 2015). Involvement of organizations or government at any level of jurisdiction must work collaboratively with each uniquely affected

¹ Launched through a collaboration between Nunavut’s Department of Health and the North West Company and Arctic Co-operatives Ltd. “helps Nunavut residents develop cooking skills by providing simple recipe cards with step-by-step instructions.” (Public Policy Forum 2015, 4).

² ‘Going on the land, Going strong’, a “... volunteer hunters are teaching youth hunting skills and harvesting. The program is helping ensure access to local foods for households in need (thus supporting food security in the present) and supporting the future food security of the community (through skills development)” (Nymand Larsen, Fondahl 2014, 437).

³ “The Northern Farm Training Institute (NFTI) is an experiential school aiming to empower northerners, strengthen [the community] and create sustainability through local food production... [through a] focus on economical, natural, integrated holistic food production systems.” (“Northern Farm Training Institute (NFTI)”)

community in order “to avoid the imposition of rules, frameworks, and discourses that may limit the ability of local actors to engage proactively” (Nymand Larsen, Fondahl 2014, 451) with these initiatives.

Role of regulations and governance

Legal regulations and policy are important actors in the establishment and sustainment of food security among Canadians. In his visit to Canada in 2012, the United Nation’s Special Rapporteur on the right to food made several important observations regarding the current legal and policy frameworks and their relation to the current food security situation (United Nations, General Assembly 2012). These observations stated that due to the absence of a constitutional right to food “Canada would benefit from a national right to food strategy” (7). While this gap in overarching legal framework is important to note, this investigation will hereon focus on specific rules and regulations that can be attributed to specific determinants or implications of food insecurity.

It has been made clear through many sources that preservation of Aboriginal traditions is key to combating Northern food security. The promotion of traditional knowledge and action around local food systems through the support of governing organizations allows for communities to gain food sovereignty; an essential achievement towards food security. Food sovereignty is defined by Food Secure Canada as the “right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems” (“Food Secure Canada”). One way of promoting successful local food systems in Northern Canada is by ensuring that local hunters and gatherers have adequate access to the land (United Nations, General Assembly 2012). Due to historically recognized ties to the land, Aboriginal peoples generally have “broader rights to natural resources under international human rights law” (18) including using natural resources for the continuation and support of their cultural identity through hunting, fishing and agricultural activities. However, “many Aboriginal communities [have] expressed concerns regarding federal government policies that have disrupted and, in some cases, devastated the traditional practices of indigenous people, including removing control over land and natural resources” (19) . It is therefore paramount that with the continued effects of globalization and environmental change outlined above, Aboriginal peoples of the North are allowed continued and sufficient access to land. Collaboration between local participants and government officials “[is] needed to avoid the

imposition of rules, frameworks, and discourses that may limit the ability of local actors to engage proactively with change on their own terms” (Nymand Larsen, Fondahl 2014, 451).

State of awareness

Food insecurity requires a holistic solution in order to successfully address all issues at play. Holistic refers here not only to identifying and addressing all determinants of food insecurity and the intersections between them, but also the involvement of a range of groups with the appropriate knowledge, influence and means to strategize and carry out remedial action. Necessary involvement should be expected from stakeholders including federal, territorial and municipal governments, non-government organizations and initiatives, as well as individuals and groups within affected areas. Collaboration between these groups is necessary to avoid Southern or Western biases by linking theory and practice with local participants (Janzen, Lapadat 1994). Much progress has already been made in this area, with numerous organizations monitoring and reporting annual statistics, and strategically implementing measures for future prevention. However, despite the range of measures recently being taken, there is a noticeable gap in the visual presentation of statistics and information regarding food insecurity. As a highly accessible form of presenting information, visual communication (as opposed to textual or verbal) of relevant data and information would allow for a baseline of knowledge to be shared across all stakeholders; from government officials to affected individuals. Shared knowledge promotes the collaboratory atmosphere so integral to the success of food security initiatives. It is also important to note the engaging characteristics of visualizations. Visual presentations of data have become exponentially more present in the media over recent years, likely due to engaging aesthetics and the ability to synthesize complex datasets to highlight key patterns. Although “the food security crisis in northern Canada has become the focus of a public discussion, advocacy and action at the national and regional levels” (Public Policy Forum 2015, v), the visual presentation of the available information may catch the attention of influential organizations that are not currently involved but wish to be. The channels of dissemination for both printed and digital visualization can allow widespread sharing of knowledge that other forms of information may not be accessible through. The following summary of the data available for visual communication will present the foundation for the visualization.

3 Methods

The reigning leader in Canadian statistical surveying is Statistics Canada. Beyond conducting the Canadian census every five years, Statistics Canada is actively involved in surveying all aspects of Canadian life. As the scope of this investigation did not allow for any firsthand data collection, data gathered by and publicly accessible through Statistics Canada was sourced for research and visualization purposes. Apart from Statistics Canada, other major sources for Arctic and Circumpolar North related data include the Circumpolar Health Observatory (CircHOB), the Survey of Living Conditions in the Arctic (SLiCA), and ArticStat. While all sources provided a unique depth and breadth of data for comparative analysis of Arctic peoples and regions, only Statistics Canada offered the particular variables and geographic areas inherent to the analysis discussed in this study. Data sourced from Statistics Canada was accessed in the form of tables from CANSIM; Statistics Canada's socioeconomic database. The amalgamation of CANSIM table data utilized to visualize Canada's food insecurity in this project was influenced by the discrepancies between the various variables and their collection.

Determinants, status and implications

As the historical discussion of food insecurity in Canada's North reveals; a combination of local determinants and external stresses acts upon individuals and communities faced with food insecurity (Ford, Beaumier 2011). Advocates and scholars will agree that the road to achieving food security in Canada's North requires attention to be placed not only on the determinants causing food insecurity, but also the implications felt in those various regions. The ideal visual portrayal of the landscape of food insecurity must therefore address its cyclical nature by presenting determinants, year-over-year food insecurity status, and resulting implications in unison.

The factors contributing to food insecurity are vast, and cannot be entirely represented by the data sourced for this investigation. However, through the information available at Statistics Canada, a representative selection of determinants were sourced. The main dataset selected is *Table 111-0015 Family characteristics, Low Income Measures (LIM), by family type and family type composition*⁴.

⁴ See Appendix A

Although Canada does not hold an official measure of poverty, Statistics Canada's Low Income Measure (LIM)—which is “50% of median household income, adjusted for household size” (Statistics Canada, 2015)—speaks to the relationship between poverty and food insecurity, and demonstrates that “the lower household income is in relation to the LIM, the greater the likelihood of severe food insecurity” (Tarasuk, Mitchell 2015, 12). A number of determinants, including food costs (through the annually collected Consumer Price Index⁵) and in-/out-migration⁶, were accessible through Statistics Canada, but did not offer the granularity necessary to be meaningfully representational of residents across the territories. Income therefore serves as the main determinant to be visualized, representing the fact that a household's financial means to access food is directly tied to its food security.

Data collection on the general health of Canadians is collected annually through the Canadian Community Health Survey (CCHS), an initiative launched in 2000 which collects “population-level information on health determinants, health status and health system utilization” (“Canadian Community Health Survey” 2012) from an average 60,000 Canadians. Since 2004, the Household Food Security Survey Module (HFSSM) has been included in the CCHS as an optional module for the collection of food insecurity related data over a 12-month period. Questions included in the HFSSM target both adult and child food insecurity. Food insecurity status is visualized based on HFSSM collection, using *Table 105-0545 Household food insecurity measures, by living arrangement, Canada, provinces and territories*⁷.

As discussed above, and similar to the determinants of food insecurity, the implications associated with compromised access to adequate food are numerous. Effects are seen across the realms of physical and mental health, the preservation of traditional practices, and the well-being of the affected communities. The accessible quantifiable data that addresses these variables has been sourced from the Health Indicator Profile; another component of CCHS. Variables include ‘percent of persons aged 12 and over with high blood pressure’, ‘percent of persons aged 12 and over with diabetes’ (sourced from *Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2013 boundaries) and peer groups*⁸), and ‘percent of persons aged

⁵ The Consumer Price index presents data only for the territorial capital cities of Yellowknife, Whitehorse and Nunavut.

⁶ Data collected reports on in-/out-migration on an interprovincial and intraprovincial level, neither of which presents the migration flows from small northern communities to larger cities, as would be relevant to the discussion of food insecurity determinants.

⁷ See Appendix B

⁸ See Appendix C

18 and over with a self reported body mass index (BMI) of 30.00 or greater (overweight or obese)' (sourced from *Table 105-4009 Body mass index (BMI), by sex, household population aged 18 and over excluding pregnant females, Canada, provinces and territories*⁹).

Discrepancies between the datasets and other data issues

Sampling data from various datasets, collected through various surveys, reveals discrepancies between datasets. These discrepancies and other data-related issues led to complications during the iterative visualization process. Ultimately, several of the datasets were left out of the final visualization to ensure the most reliable and efficient information was being presented in the final visual solution.

The datasets originally selected for inclusion in the visualization were chosen with the intention that their various data would overlap for as many relevant years as possible, allowing for adequate comparison of year over year records, and the opportunity for visual patterns to emerge. However, there remain a number of years in which data for certain surveys was not collected, resulting in several gaps in representation within the visualization. Additionally, the data from *Table 105-0545 Household food insecurity measures, by living arrangement, Canada, provinces and territories* has been aggregated to represent two year periods of time. This collection is at odds with all other datasets, which are reported on an annual basis. (Please refer to Appendix A-D for a detailed record of annual data collection within each dataset)

Canada's population is largely concentrated across its southern half, with the majority of the territories being sparsely populated—the exception being the capital city of each territory. It is likely this low population density and lack of major cities that has resulted in territorial data to be collected as an aggregation of the entire territory, or collected only within the capital city, instead of by region or CMA-CA¹⁰ as is the case with the majority of southern Canadian data collection. As a result, there is a definite lack of granularity in the data available from Statistics Canada concerning Northern Canada's smaller towns and communities. As the remote locations, inaccessibility and lack of infrastructure of these smaller communities often heightens the resident's vulnerability to food insecurity, more granular data collection would be greatly beneficial to assessing food insecurity across rural communities. From the variables outlined above, only those in *Table 111-0015 Family characteristics*,

⁹ See Appendix D

¹⁰ Census metropolitan area-census agglomeration

Low Income Measures (LIM), by family type and family type composition are split into territorial, CMA-CA and non-CMA-CA regional data, with all other data reporting only territorial averages.

Missing data points are present in the *Table 105-0545 Household food insecurity measures, by living arrangement, Canada, provinces and territories* dataset. Due to high coefficients of variation (CVs), some data points are labelled by Statistics Canada as to be used with caution¹¹, or too unreliable to be published¹². The low population density and the isolated, hard-to-reach communities likely contributed to the high variation of these values. Data collection for a unique area such as Northern Canada must not be conducted with a Southern bias; special consideration must be given in order to obtain accurate and complete datasets that can be used reliably for statistical analysis and communication.

Informed direction for visualization

The research and data-collection process revealed the many inconsistencies and discrepancies between the publicly available food insecurity datasets. Early sketching of the visual ways of representing this data concentrated on showing the year-over-year progression of food insecurity and its associated determinants and implications for each of the three northern territories. Due to the inconsistencies within data collection date, and annual versus bi-annual data, this early direction was abandoned as it did not efficiently visualize patterns in food insecurity across individual years. This realization spurred a paring down of the datasets being used for visualization.

The final visualization relies on only two CANSIM tables; *Table 105-0545 Household food insecurity measures, by living arrangement, Canada, provinces and territories* and *Table 111-0015 Family characteristics, Low Income Measures (LIM), by family type and family type composition*. These datasets were chosen for their consistency in collection over a number of years and their complementary categorization of data by family type. Both datasets report their respective variables for a number of family structures. The comparable family types include All Families, Couple Families (including couples with and without children under 18 years old), Lone Parent Families, and Non-Census Families (including unattached individuals living alone and individuals who are not part of

¹¹ “Data with a coefficient of variation (CV) from 16.6% to 33.3% are identified as follows: (E) use with caution” (“Table 105-0545 Household Food Insecurity Measures, by Living Arrangement, Canada, Provinces and Territories.”)

¹² “Data with a coefficient of variation (CV) greater than 33.3% were suppressed due to extreme sampling variability and are identified as follows: (F) too unreliable to be published” (“Table 105-0545 Household Food Insecurity Measures, by Living Arrangement, Canada, Provinces and Territories.”)

a census family, couple family or lone parent family). When visualized, this specificity allows vulnerabilities within communities to be seen depending on what family construct an individual falls into, allowing for informed and specialized aid and attention. The characteristics of these two datasets informed the final graphic solution for visualizing the data (see Figure 1). Its design was tested using data from each of the three territories, as a measure of efficiency across various values. Iteration brought about the final form.

The assorted variables being represented informed the reliance on both a horizontal and vertical axis for organization and separation purposes. The horizontal division separates information about food insecurity (above) from information about income (below), allowing each variable to have its own scale with the related unit of measurement. The vertical axis plays two important roles. First, it functions as a divider, and axis of comparison, between two periods of time: 2007/2008 and 2011/2012. A sort of visual mirroring occurs across this line where the data for the two time periods is split; any break in the arcs representing the variables notifies the viewer of a change in value for that variable. Second, the vertical axis line draws the viewer's attention to the family type label associated with a particular graph.

Further specificity is shown in both the upper and lower half of the graphic. Within the upper half the *total percent of household type with food insecurity* is broken down further into the *percent of household type with moderate food insecurity* and the *percent of household type with severe food insecurity*; indicated through a change in stroke colour. Any values missing from the original food insecurity dataset are represented by a round marker in place of an arc. Looking to the bottom half, *median family income* is broken down into *median family income* and *median low-income family income*. Income data available for Nunavut was only available for the entire territory, however data for the Northwest Territories and Yukon is broken down by region type into the capital city region (CMA-CA region) and all other areas (non CMA-CA regions). Numbered footnotes (1 through 5) provide further explanation for several variables (see Appendix E and F).

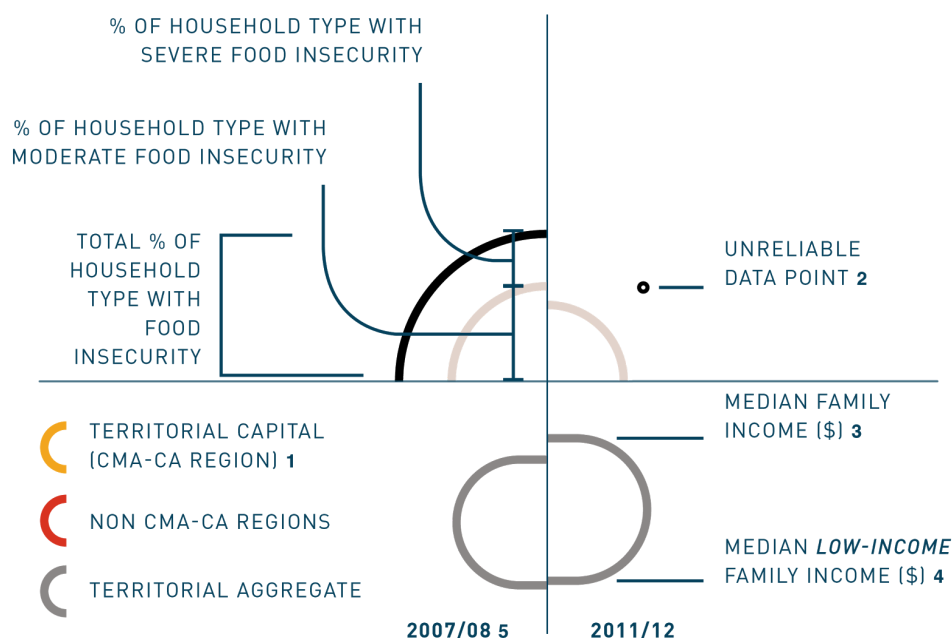


Figure 1 Graphical treatment applied to data, used as the legend in the final visualization

The application of the above graphical treatment to data from each territory ensures consistent comparison of vulnerabilities to food insecurity (and any emerging patterns) across Northern Canada. The data for each territory is split into the four family-type categories and presents the corresponding household food insecurity and family income data for each category. An adjacent map indicates the territory's location geographically within Canada. The discussion of the visual communication of vulnerabilities to food insecurity will use the Northwest Territories as an example (see Figure 2). For the full visualization please refer to Appendix E and F.

The visualization of the Northwest Territories' data offers great insight into Northern Canadian food insecurity and the state of data collection on the topic. Immediately apparent are the large variations in both food insecurity and median family income across family types. It is apparent that Lone Parent Families were experiencing the highest percent of food insecurity for both given time periods. Couple Families have the highest income, while Lone Parent and Non Census Families have much lower values. The gaps between the tops of the yellow arcs and the tops of the red arcs indicate that households in the capital city, Yellowknife, have a higher median family income than all other regions of the territory, across all family types. Median Family Income for low-income families, however, remains consistent

between Yellowknife and rural areas. When considered together, household food insecurity and income indicate where vulnerabilities exist within populations. As the family type with the highest percent of moderate food insecurity (not even including severe food insecurity), and one of the lowest ranges for median family income, the Lone Parent Family is the family type most vulnerable to food insecurity in the Northwest Territories for the given time periods.

Missing data points indicate the opportunity and need for more accurate data collection on the topic of food insecurity. As the current method for data collection is offered as an optional segment of the Canadian Community Health Survey, the urgency and need for reliable data may not be felt by the territory. Addressing these issues in the current protocols around Northern Canadian food insecurity data collection may be one component in understanding and confronting the issue. Observations such as these are made possible through the visual communication of the currently available data.



Figure 2 Visualization of food insecurity and income data from the Northwest territories

The final visualization has been applied in both a print and digital medium. The printed piece is an informational poster, printed in black and white on newsprint. It was imperative to offer the

visualization in a physical form not only to increase accessibility across stakeholders, but also to reinforce the fact that food insecurity is an issue that physically affects and shapes those who are affected by it. By offering the exchange of the visualization not only through online communication channels, but also by the tangible passing of an item through hands, the print piece compliments the idea of knowledge being shared between stakeholders. The poster folds up, similar to a newspaper, and can be passed through individuals and communities. The poster was created entirely in Adobe Illustrator, using the data sourced from Statistics Canada, which was downloaded in the form of a CSV file and accessed locally through Microsoft Excel.

The digital version of the visualization is offered in the form of an informative website. This format was chosen for its ease of dissemination across stakeholders and their peers, and its opportunities for interactive and fluid data presentation. Though the web offers sophisticated opportunities for interactivity, the time constraints of this investigation limited the extent to which interactivity could be utilized. Future work on the website would ensure that those opportunities are taken, where appropriate, to enhance the accessibility of the data and story presented. The website was created using HTML, CSS and Javascript (including libraries such as Bootstrap, jQuery and Vivus, and the One Page Scroll plugin).

4 Conclusion

Visualizing Northern Canadian food insecurity has offered observations not only within the visualized data, but also about the data itself. Through this investigation it is clear that the journey toward food security for Northern Canada must involve a discussion about vulnerabilities within communities, but also vulnerabilities within the methods of gathering and communicating information on the topic.

Patterns of vulnerability to food insecurity observed through this visualization are consistent with existing literature on the topic. The visualization supported the fact that the family type most vulnerable to food insecurity is the Lone Parent Family. This family type typically has a lower income than other family types, often relying on only one family member for financial support. Also apparent is the large income gap between average families and low-income families. Families considered to be low-income are also a group more vulnerable to food insecurity. Even from the general data used here, there are indications that residents of rural communities are more vulnerable to food insecurity as

they have had consistently lower incomes than residents of metropolitan capital city areas. The lower a family's income (taking into account the number of family members) the more impeded their financial access to food. This vulnerability is consistent with the research conducted, which pointed out the higher food costs present in remote rural communities. Data collection conducted on a geographically more granular level would support these observations.

The visualization of this particular data brought to light issues within the original collection of the data, that were not expressed in pre-existing literature. Existing shortcomings in the collection and communication of Northern Canadian food insecurity data impede stakeholders from the full potential of the information. The research and visualization process revealed the inconsistency and lack of granularity within publicly available data related to Northern Canadian food insecurity. Consistent and geographically granular data are essential for up-to date knowledge of vulnerability to food insecurity within Northern communities. While data collection is only one method towards tackling food insecurity, it is one which has the power to communicate specific information about individual Northern communities. This information, when considered in tandem with territorial policies and initiatives, would allow for adaptations to the individual needs of communities or areas. Northern Canada's unique characteristics should be considered when collecting data about its people; in order to avoid any Southern biases in the collection methods that may compromise the integrity of the data.

One route towards increasing the state of awareness about Northern Canadian food insecurity and its data collection is presenting the work compiled in this investigation to the Canadian Government. From general food security organizations, such as Food Secure Canada, to the individual territorial governments of the three territories, there are numerous opportunities to present the information collected here to individuals and organizations in positions of power and knowledge regarding food insecurity in Canada. A likely first step in sharing this investigation will be informing a Member of Parliament in order to get assistance in directing the information to the appropriate parties.

Food insecurity in Northern Canada is an issue of public health and cultural identity. As a concern not only for Northern residents, but also the larger Canadian and circumpolar societies, this issue deserves continued attention and deeper involvement in order to work towards a food secure North. The intersections between human centered design and data driven design are one opportunity, explored in

this study, to provide valuable communication about such a concerning issue. Without informed communication, data cannot, to the same extent, advocate for those in need.

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Appendix B

Table 105-0545 Household food insecurity measures, by living arrangement, Canada, provinces and territories

Table 105-0545 Household food insecurity measures, by living arrangement, Canada, provinces and territories, occasional (number unless otherwise noted)(1,2,3)									
Survey or program details:									
Canadian Community Health Survey - Annual Component - 3226									
Geography	Living arrangement (6,7)	Household food insecurity measures (8)	Household food insecurity status (9)	Characteristics (10,11,12,13,14,15,16)	2007/2008	2011/2012			
Yukon (4)	Total, all living arrangements	Household	Food secure	Number of households	11276	12879			
Yukon (4)	Total, all living arrangements	Household	Food secure	Percent of households	88.6	88.5			
Yukon (4)	Total, all living arrangements	Household	Food secure	Statistically different from the Canada rate (17)	-1	-1			
Yukon (4)	Total, all living arrangements	Household	Food insecure, moderate	Number of households	797	1236			
Yukon (4)	Total, all living arrangements	Household	Food insecure, moderate	Percent of households	6.3	8.5			
Yukon (4)	Total, all living arrangements	Household	Food insecure, moderate	Statistically different from the Canada rate (17)	0	1			
Yukon (4)	Total, all living arrangements	Household	Food insecure, severe	Number of households	651	434			
Yukon (4)	Total, all living arrangements	Household	Food insecure, severe	Percent of households	5.1	3			
Yukon (4)	Total, all living arrangements	Household	Food insecure, severe	Statistically different from the Canada rate (17)	1	0			
Yukon (4)	Total, all living arrangements	Adult	Food secure	Number of households	11337	12969			
Yukon (4)	Total, all living arrangements	Adult	Food secure	Percent of households	89.1	89.1			
Yukon (4)	Total, all living arrangements	Adult	Food secure	Statistically different from the Canada rate (17)	-1	-1			
Yukon (4)	Total, all living arrangements	Adult	Food insecure, moderate	Number of households	761	1146			
Yukon (4)	Total, all living arrangements	Adult	Food insecure, moderate	Percent of households	6	7.9			
Yukon (4)	Total, all living arrangements	Adult	Food insecure, moderate	Statistically different from the Canada rate (17)	0	1			
Yukon (4)	Total, all living arrangements	Adult	Food insecure, severe	Number of households	625	434			
Yukon (4)	Total, all living arrangements	Adult	Food insecure, severe	Percent of households	4.9	3			
Yukon (4)	Total, all living arrangements	Adult	Food insecure, severe	Statistically different from the Canada rate (17)	1	0			
Yukon (4)	Total, all living arrangements	Child	Food secure	Number of households	3781	4087			
Yukon (4)	Total, all living arrangements	Child	Food secure	Percent of households	91	93.5			
Yukon (4)	Total, all living arrangements	Child	Food secure	Statistically different from the Canada rate (17)	-1	0			
Yukon (4)	Total, all living arrangements	Child	Food insecure, moderate	Number of households	312	273			
Yukon (4)	Total, all living arrangements	Child	Food insecure, moderate	Percent of households	7.5	6.2			
Yukon (4)	Total, all living arrangements	Child	Food insecure, moderate	Statistically different from the Canada rate (17)	0	0			
Yukon (4)	Total, all living arrangements	Child	Food insecure, severe	Number of households	F	F			
Yukon (4)	Total, all living arrangements	Child	Food insecure, severe	Percent of households	F	F			
Yukon (4)	Total, all living arrangements	Child	Food insecure, severe	Statistically different from the Canada rate (17)	..	..	
Yukon (4)	Unattached individual living alone	Household	Food secure	Number of households	3453	4092			
Yukon (4)	Unattached individual living alone	Household	Food secure	Percent of households	83.5	83.1			
Yukon (4)	Unattached individual living alone	Household	Food secure	Statistically different from the Canada rate (17)	0	-1			
Yukon (4)	Unattached individual living alone	Household	Food insecure, moderate	Number of households	291	570			
Yukon (4)	Unattached individual living alone	Household	Food insecure, moderate	Percent of households	7	11.6			
Yukon (4)	Unattached individual living alone	Household	Food insecure, moderate	Statistically different from the Canada rate (17)	0	1			
Yukon (4)	Unattached individual living alone	Household	Food insecure, severe	Number of households	392	260			
Yukon (4)	Unattached individual living alone	Household	Food insecure, severe	Percent of households	9.5	5.3			
Yukon (4)	Unattached individual living alone	Household	Food insecure, severe	Statistically different from the Canada rate (17)	1	0			
Yukon (4)	Unattached individual living alone	Adult	Food secure	Number of households	3453	4092			
Yukon (4)	Unattached individual living alone	Adult	Food secure	Percent of households	83.5	83.1			
Yukon (4)	Unattached individual living alone	Adult	Food secure	Statistically different from the Canada rate (17)	0	-1			
Yukon (4)	Unattached individual living alone	Adult	Food insecure, moderate	Number of households	291	570			
Yukon (4)	Unattached individual living alone	Adult	Food insecure, moderate	Percent of households	7	11.6			
Yukon (4)	Unattached individual living alone	Adult	Food insecure, moderate	Statistically different from the Canada rate (17)	0	1			
Yukon (4)	Unattached individual living alone	Adult	Food insecure, severe	Number of households	392	260			
Yukon (4)	Unattached individual living alone	Adult	Food insecure, severe	Percent of households	9.5	5.3			
Yukon (4)	Unattached individual living alone	Adult	Food insecure, severe	Statistically different from the Canada rate (17)	1	0			
Yukon (4)	Couple no children	Household	Food secure	Number of households	2762	3537			
Yukon (4)	Couple no children	Household	Food secure	Percent of households	97	97			

Appendix B (continued)

Table 105-0545 Household food insecurity measures, by living arrangement, Canada, provinces and territories

Yukon (4)	Couple no children	Household	Food secure	Statistically different from the Canada rate (17)	0	0
Yukon (4)	Couple no children	Household	Food insecure, moderate	F	F	
Yukon (4)	Couple no children	Household	Food insecure, moderate	F	F	
Yukon (4)	Couple no children	Household	Food insecure, moderate	..	..
Yukon (4)	Couple no children	Household	Food insecure, severe	F	F	
Yukon (4)	Couple no children	Household	Food insecure, severe	F	F	
Yukon (4)	Couple no children	Household	Food insecure, severe	..	..
Yukon (4)	Couple no children	Adult	Food secure	2762	3537	
Yukon (4)	Couple no children	Adult	Food secure	97	97	
Yukon (4)	Couple no children	Adult	Food secure	0	0	
Yukon (4)	Couple no children	Adult	Food insecure, moderate	F	F	
Yukon (4)	Couple no children	Adult	Food insecure, moderate	F	F	
Yukon (4)	Couple no children	Adult	Food insecure, moderate	..	..
Yukon (4)	Couple no children	Adult	Food insecure, severe	F	F	
Yukon (4)	Couple no children	Adult	Food insecure, severe	F	F	
Yukon (4)	Couple no children	Adult	Food insecure, severe	..	..
Yukon (4)	Couple with child(ren) less than 18 y	Household	Food secure	2455	2365	
Yukon (4)	Couple with child(ren) less than 18 y	Household	Food secure	94.6	94	
Yukon (4)	Couple with child(ren) less than 18 y	Household	Food secure	0	0	
Yukon (4)	Couple with child(ren) less than 18 y	Household	Food insecure, moderate	F	F	
Yukon (4)	Couple with child(ren) less than 18 y	Household	Food insecure, moderate	F	F	
Yukon (4)	Couple with child(ren) less than 18 y	Household	Food insecure, moderate	..	..
Yukon (4)	Couple with child(ren) less than 18 y	Household	Food insecure, severe	F	F	
Yukon (4)	Couple with child(ren) less than 18 y	Household	Food insecure, severe	F	F	
Yukon (4)	Couple with child(ren) less than 18 y	Household	Food insecure, severe	..	..
Yukon (4)	Couple with child(ren) less than 18 y	Adult	Food secure	2455	2378	
Yukon (4)	Couple with child(ren) less than 18 y	Adult	Food secure	94.6	94.5	
Yukon (4)	Couple with child(ren) less than 18 y	Adult	Food secure	0	0	
Yukon (4)	Couple with child(ren) less than 18 y	Adult	Food insecure, moderate	F	F	
Yukon (4)	Couple with child(ren) less than 18 y	Adult	Food insecure, moderate	F	F	
Yukon (4)	Couple with child(ren) less than 18 y	Adult	Food insecure, moderate	..	..
Yukon (4)	Couple with child(ren) less than 18 y	Adult	Food insecure, severe	F	F	
Yukon (4)	Couple with child(ren) less than 18 y	Adult	Food insecure, severe	F	F	
Yukon (4)	Couple with child(ren) less than 18 y	Adult	Food insecure, severe	..	..
Yukon (4)	Couple with child(ren) less than 18 y	Child	Food secure	2518	2462	
Yukon (4)	Couple with child(ren) less than 18 y	Child	Food secure	97	97.8	
Yukon (4)	Couple with child(ren) less than 18 y	Child	Food secure	0	0	
Yukon (4)	Couple with child(ren) less than 18 y	Child	Food insecure, moderate	F	F	
Yukon (4)	Couple with child(ren) less than 18 y	Child	Food insecure, moderate	F	F	
Yukon (4)	Couple with child(ren) less than 18 y	Child	Food insecure, moderate	..	..
Yukon (4)	Couple with child(ren) less than 18 y	Child	Food insecure, severe	F	F	
Yukon (4)	Couple with child(ren) less than 18 y	Child	Food insecure, severe	F	F	
Yukon (4)	Couple with child(ren) less than 18 y	Child	Food insecure, severe	..	..
Yukon (4)	Lone parent with child(ren) less than 18 y	Household	Food secure	763	822	
Yukon (4)	Lone parent with child(ren) less than 18 y	Household	Food secure	74.3	72.9	
Yukon (4)	Lone parent with child(ren) less than 18 y	Household	Food insecure, moderate	0	0	
Yukon (4)	Lone parent with child(ren) less than 18 y	Household	Food insecure, moderate	171	242	
Yukon (4)	Lone parent with child(ren) less than 18 y	Household	Food insecure, moderate	16.7	21.4	
Yukon (4)	Lone parent with child(ren) less than 18 y	Household	Food insecure, severe	0	0	
Yukon (4)	Lone parent with child(ren) less than 18 y	Household	Food insecure, severe	F	F	
Yukon (4)	Lone parent with child(ren) less than 18 y	Household	Food insecure, severe	F	F	

Appendix B (continued)

Table 105-0545 Household food insecurity measures, by living arrangement, Canada, provinces and territories

Northwest Territories (4)	Total, all living arrangements	Household	Food insecure, moderate	Statistically different from the Canada rate (17)	1	1
Northwest Territories (4)	Total, all living arrangements	Household	Food insecure, severe	Number of households	422	664
Northwest Territories (4)	Total, all living arrangements	Household	Food insecure, severe	Percent of households	2.7	4.3
Northwest Territories (4)	Total, all living arrangements	Household	Food insecure, severe	Statistically different from the Canada rate (17)	0	1
Northwest Territories (4)	Total, all living arrangements	Adult	Food secure	Number of households	13647	13271
Northwest Territories (4)	Total, all living arrangements	Adult	Food secure	Percent of households	88.1	86.4
Northwest Territories (4)	Total, all living arrangements	Adult	Food secure	Statistically different from the Canada rate (17)	-1	-1
Northwest Territories (4)	Total, all living arrangements	Adult	Food insecure, moderate	Number of households	1433	1420
Northwest Territories (4)	Total, all living arrangements	Adult	Food insecure, moderate	Percent of households	9.2	9.2
Northwest Territories (4)	Total, all living arrangements	Adult	Food insecure, moderate	Statistically different from the Canada rate (17)	1	1
Northwest Territories (4)	Total, all living arrangements	Adult	Food insecure, severe	Number of households	413	664
Northwest Territories (4)	Total, all living arrangements	Adult	Food insecure, severe	Percent of households	2.7	4.3
Northwest Territories (4)	Total, all living arrangements	Adult	Food insecure, severe	Statistically different from the Canada rate (17)	0	1
Northwest Territories (4)	Total, all living arrangements	Child	Food secure	Number of households	5097	5529
Northwest Territories (4)	Total, all living arrangements	Child	Food secure	Percent of households	90.2	91.2
Northwest Territories (4)	Total, all living arrangements	Child	Food secure	Statistically different from the Canada rate (17)	-1	-1
Northwest Territories (4)	Total, all living arrangements	Child	Food insecure, moderate	Number of households	536	493
Northwest Territories (4)	Total, all living arrangements	Child	Food insecure, moderate	Percent of households	9.5	8.1
Northwest Territories (4)	Total, all living arrangements	Child	Food insecure, moderate	Statistically different from the Canada rate (17)	1	1
Northwest Territories (4)	Total, all living arrangements	Child	Food insecure, severe	Number of households	F	F
Northwest Territories (4)	Total, all living arrangements	Child	Food insecure, severe	Percent of households	F	F
Northwest Territories (4)	Total, all living arrangements	Child	Food insecure, severe	Statistically different from the Canada rate (17)	..	..
Northwest Territories (4)	Total, all living arrangements	Child	Food secure	Number of households	3430	3221
Northwest Territories (4)	Unattached individual living alone	Household	Food secure	Percent of households	86.7	87.8
Northwest Territories (4)	Unattached individual living alone	Household	Food secure	Statistically different from the Canada rate (17)	0	0
Northwest Territories (4)	Unattached individual living alone	Household	Food insecure, moderate	Number of households	326	282
Northwest Territories (4)	Unattached individual living alone	Household	Food insecure, moderate	Percent of households	8.2	7.7
Northwest Territories (4)	Unattached individual living alone	Household	Food insecure, moderate	Statistically different from the Canada rate (17)	0	0
Northwest Territories (4)	Unattached individual living alone	Household	Food insecure, severe	Number of households	F	F
Northwest Territories (4)	Unattached individual living alone	Household	Food insecure, severe	Percent of households	F	F
Northwest Territories (4)	Unattached individual living alone	Household	Food insecure, severe	Statistically different from the Canada rate (17)	..	..
Northwest Territories (4)	Unattached individual living alone	Adult	Food secure	Number of households	3430	3221
Northwest Territories (4)	Unattached individual living alone	Adult	Food secure	Percent of households	86.7	87.8
Northwest Territories (4)	Unattached individual living alone	Adult	Food secure	Statistically different from the Canada rate (17)	0	0
Northwest Territories (4)	Unattached individual living alone	Adult	Food insecure, moderate	Number of households	326	282
Northwest Territories (4)	Unattached individual living alone	Adult	Food insecure, moderate	Percent of households	8.2	7.7
Northwest Territories (4)	Unattached individual living alone	Adult	Food insecure, moderate	Statistically different from the Canada rate (17)	0	0
Northwest Territories (4)	Unattached individual living alone	Adult	Food insecure, severe	Number of households	F	F
Northwest Territories (4)	Unattached individual living alone	Adult	Food insecure, severe	Percent of households	F	F
Northwest Territories (4)	Unattached individual living alone	Adult	Food insecure, severe	Statistically different from the Canada rate (17)	..	..
Northwest Territories (4)	Unattached individual living alone	Adult	Food secure	Number of households	3691	2886
Northwest Territories (4)	Couple no children	Household	Food secure	Percent of households	93.5	92
Northwest Territories (4)	Couple no children	Household	Food secure	Statistically different from the Canada rate (17)	0	-1
Northwest Territories (4)	Couple no children	Household	Food insecure, moderate	Number of households	F	F
Northwest Territories (4)	Couple no children	Household	Food insecure, moderate	Percent of households	F	F
Northwest Territories (4)	Couple no children	Household	Food insecure, moderate	Statistically different from the Canada rate (17)	..	..
Northwest Territories (4)	Couple no children	Household	Food insecure, severe	Number of households	F	F
Northwest Territories (4)	Couple no children	Household	Food insecure, severe	Percent of households	F	F
Northwest Territories (4)	Couple no children	Household	Food insecure, severe	Statistically different from the Canada rate (17)	..	..
Northwest Territories (4)	Couple no children	Adult	Food secure	Number of households	3691	2886
Northwest Territories (4)	Couple no children	Adult	Food secure	Percent of households	93.5	92

Appendix B (continued)

Table 105-0545 Household food insecurity measures, by living arrangement, Canada, provinces and territories

Northwest Territories (4)	Lone parent with child(ren) less than Adult	Food insecure, severe	Statistically different from the Canada rate (17)	..	806
Northwest Territories (4)	Lone parent with child(ren) less than Child	Food secure	Number of households	949	79.8
Northwest Territories (4)	Lone parent with child(ren) less than Child	Food secure	Percent of households	79.1	0
Northwest Territories (4)	Lone parent with child(ren) less than Child	Food secure	Statistically different from the Canada rate (17)	0	194
Northwest Territories (4)	Lone parent with child(ren) less than Child	Food insecure, moderate	Number of households	209	19.2
Northwest Territories (4)	Lone parent with child(ren) less than Child	Food insecure, moderate	Percent of households	0	0
Northwest Territories (4)	Lone parent with child(ren) less than Child	Food insecure, moderate	Statistically different from the Canada rate (17)	0	0
Northwest Territories (4)	Lone parent with child(ren) less than Child	Food insecure, severe	Number of households	0	0
Northwest Territories (4)	Lone parent with child(ren) less than Child	Food insecure, severe	Percent of households	F	F
Northwest Territories (4)	Lone parent with child(ren) less than Child	Food insecure, severe	Statistically different from the Canada rate (17)	F	F
Northwest Territories (4)	Lone parent with child(ren) less than Child	Food insecure, severe	Number of households	2373	2772
Northwest Territories (4)	Other living arrangements	Food secure	Percent of households	89.2	82.1
Northwest Territories (4)	Household	Food secure	Statistically different from the Canada rate (17)	0	-1
Northwest Territories (4)	Household	Food insecure, moderate	Number of households	177	420
Northwest Territories (4)	Household	Food insecure, moderate	Percent of households	6.7	12.5
Northwest Territories (4)	Household	Food insecure, moderate	Statistically different from the Canada rate (17)	0	1
Northwest Territories (4)	Household	Food insecure, severe	Number of households	0	0
Northwest Territories (4)	Household	Food insecure, severe	Percent of households	F	F
Northwest Territories (4)	Household	Food insecure, severe	Statistically different from the Canada rate (17)	F	F
Northwest Territories (4)	Household	Food insecure, severe	Number of households	2376	2772
Northwest Territories (4)	Adult	Food secure	Percent of households	89.3	82.1
Northwest Territories (4)	Adult	Food secure	Statistically different from the Canada rate (17)	0	-1
Northwest Territories (4)	Adult	Food insecure, moderate	Number of households	184	420
Northwest Territories (4)	Adult	Food insecure, moderate	Percent of households	6.9	12.5
Northwest Territories (4)	Adult	Food insecure, moderate	Statistically different from the Canada rate (17)	0	1
Northwest Territories (4)	Adult	Food insecure, severe	Number of households	0	0
Northwest Territories (4)	Adult	Food insecure, severe	Percent of households	F	F
Northwest Territories (4)	Adult	Food insecure, severe	Statistically different from the Canada rate (17)	F	F
Northwest Territories (4)	Adult	Food insecure, severe	Number of households	627	743
Northwest Territories (4)	Child	Food secure	Percent of households	89.7	85.5
Northwest Territories (4)	Child	Food secure	Statistically different from the Canada rate (17)	0	0
Northwest Territories (4)	Child	Food insecure, moderate	Number of households	0	0
Northwest Territories (4)	Child	Food insecure, moderate	Percent of households	F	F
Northwest Territories (4)	Child	Food insecure, moderate	Statistically different from the Canada rate (17)	F	F
Northwest Territories (4)	Child	Food insecure, moderate	Number of households	..	..
Northwest Territories (4)	Child	Food insecure, severe	Percent of households	F	F
Northwest Territories (4)	Child	Food insecure, severe	Statistically different from the Canada rate (17)	F	F
Northwest Territories (4)	Child	Food insecure, severe	Number of households	3834	4313
Northwest Territories (4)	Child	Food insecure, severe	Percent of households	68.4	63.8
Northwest Territories (4)	Child	Food insecure, severe	Statistically different from the Canada rate (17)	-1	-1
Northwest Territories (4)	Household	Food secure	Number of households	1143	1276
Northwest Territories (4)	Household	Food insecure, moderate	Percent of households	20.4	18.9
Northwest Territories (4)	Household	Food insecure, moderate	Statistically different from the Canada rate (17)	1	1
Northwest Territories (4)	Household	Food insecure, moderate	Number of households	631	1175
Northwest Territories (4)	Household	Food insecure, severe	Percent of households	11.2	17.4
Northwest Territories (4)	Household	Food insecure, severe	Statistically different from the Canada rate (17)	1	1
Northwest Territories (4)	Household	Food insecure, severe	Number of households	3879	4359
Northwest Territories (4)	Adult	Food secure	Percent of households	68.7	64.1
Northwest Territories (4)	Adult	Food secure	Statistically different from the Canada rate (17)	-1	-1
Northwest Territories (4)	Adult	Food insecure, moderate	Number of households	1133	1296
Northwest Territories (4)	Adult	Food insecure, moderate	Percent of households	20.1	19.1

Appendix B (continued)

Table 105-0545 Household food insecurity measures, by living arrangement, Canada, provinces and territories

Nunavut (4.5)	Total, all living arrangements	Adult	Food insecure, moderate	Statistically different from the Canada rate (17)	1	1
Nunavut (4.5)	Total, all living arrangements	Adult	Food insecure, severe	Number of households	632	1145
Nunavut (4.5)	Total, all living arrangements	Adult	Food insecure, severe	Percent of households	11.2	16.8
Nunavut (4.5)	Total, all living arrangements	Adult	Food insecure, severe	Statistically different from the Canada rate (17)	1	1
Nunavut (4.5)	Total, all living arrangements	Child	Food secure	Number of households	2192	2529
Nunavut (4.5)	Total, all living arrangements	Child	Food secure	Percent of households	71.2	67.1
Nunavut (4.5)	Total, all living arrangements	Child	Food secure	Statistically different from the Canada rate (17)	-1	-1
Nunavut (4.5)	Total, all living arrangements	Child	Food insecure, moderate	Number of households	687	805
Nunavut (4.5)	Total, all living arrangements	Child	Food insecure, moderate	Percent of households	22.3	21.4
Nunavut (4.5)	Total, all living arrangements	Child	Food insecure, moderate	Statistically different from the Canada rate (17)	1	1
Nunavut (4.5)	Total, all living arrangements	Child	Food insecure, severe	Number of households	201	436
Nunavut (4.5)	Total, all living arrangements	Child	Food insecure, severe	Percent of households	6.5	11.6
Nunavut (4.5)	Total, all living arrangements	Child	Food insecure, severe	Statistically different from the Canada rate (17)	1	1
Nunavut (4.5)	Total, all living arrangements	Child	Food secure	Number of households	1041	1058
Nunavut (4.5)	Unattached individual living alone	Household	Food secure	Percent of households	84.3	72.4
Nunavut (4.5)	Unattached individual living alone	Household	Food secure	Statistically different from the Canada rate (17)	0	-1
Nunavut (4.5)	Unattached individual living alone	Household	Food insecure, moderate	Number of households	122	166
Nunavut (4.5)	Unattached individual living alone	Household	Food insecure, moderate	Percent of households	9.9	11.4
Nunavut (4.5)	Unattached individual living alone	Household	Food insecure, moderate	Statistically different from the Canada rate (17)	0	0
Nunavut (4.5)	Unattached individual living alone	Household	Food insecure, severe	Number of households	F	238
Nunavut (4.5)	Unattached individual living alone	Household	Food insecure, severe	Percent of households	F	16.2
Nunavut (4.5)	Unattached individual living alone	Household	Food insecure, severe	Statistically different from the Canada rate (17)	..	1
Nunavut (4.5)	Unattached individual living alone	Household	Food secure	Number of households	1041	1058
Nunavut (4.5)	Unattached individual living alone	Adult	Food secure	Percent of households	..	..
Nunavut (4.5)	Unattached individual living alone	Adult	Food secure	Statistically different from the Canada rate (17)	0	-1
Nunavut (4.5)	Unattached individual living alone	Adult	Food insecure, moderate	Number of households	122	166
Nunavut (4.5)	Unattached individual living alone	Adult	Food insecure, moderate	Percent of households	9.9	11.4
Nunavut (4.5)	Unattached individual living alone	Adult	Food insecure, moderate	Statistically different from the Canada rate (17)	0	0
Nunavut (4.5)	Unattached individual living alone	Adult	Food insecure, severe	Number of households	F	238
Nunavut (4.5)	Unattached individual living alone	Adult	Food insecure, severe	Percent of households	F	16.2
Nunavut (4.5)	Unattached individual living alone	Adult	Food insecure, severe	Statistically different from the Canada rate (17)	..	1
Nunavut (4.5)	Couple no children	Household	Food secure	Number of households	632	699
Nunavut (4.5)	Couple no children	Household	Food secure	Percent of households	83.9	89
Nunavut (4.5)	Couple no children	Household	Food secure	Statistically different from the Canada rate (17)	-1	-1
Nunavut (4.5)	Couple no children	Household	Food insecure, moderate	Number of households	F	F
Nunavut (4.5)	Couple no children	Household	Food insecure, moderate	Percent of households	F	F
Nunavut (4.5)	Couple no children	Household	Food insecure, moderate	Statistically different from the Canada rate (17)	..	..
Nunavut (4.5)	Couple no children	Household	Food insecure, severe	Number of households	F	F
Nunavut (4.5)	Couple no children	Household	Food insecure, severe	Percent of households	F	F
Nunavut (4.5)	Couple no children	Household	Food insecure, severe	Statistically different from the Canada rate (17)	..	..
Nunavut (4.5)	Couple no children	Adult	Food secure	Number of households	632	699
Nunavut (4.5)	Couple no children	Adult	Food secure	Percent of households	83.9	89
Nunavut (4.5)	Couple no children	Adult	Food secure	Statistically different from the Canada rate (17)	-1	-1
Nunavut (4.5)	Couple no children	Adult	Food insecure, moderate	Number of households	F	F
Nunavut (4.5)	Couple no children	Adult	Food insecure, moderate	Percent of households	..	..
Nunavut (4.5)	Couple no children	Adult	Food insecure, moderate	Statistically different from the Canada rate (17)	..	..
Nunavut (4.5)	Couple no children	Adult	Food insecure, severe	Number of households	F	F
Nunavut (4.5)	Couple no children	Adult	Food insecure, severe	Percent of households	F	F
Nunavut (4.5)	Couple no children	Adult	Food insecure, severe	Statistically different from the Canada rate (17)	..	..
Nunavut (4.5)	Couple with child(ren) less than 18 y	Household	Food secure	Number of households	1103	1195
Nunavut (4.5)	Couple with child(ren) less than 18 y	Household	Food secure	Percent of households	65	53.7

Appendix B (continued)

Table 105-0545 Household food insecurity measures, by living arrangement, Canada, provinces and territories

Nunavut (4.5)	Couple with child(ren) less than 18 y Household	Food secure	Statistically different from the Canada rate (17)	-1	-1
Nunavut (4.5)	Couple with child(ren) less than 18 y Household	Food insecure, moderate	Number of households	419	589
Nunavut (4.5)	Couple with child(ren) less than 18 y Household	Food insecure, moderate	Percent of households	24.6	26.5
Nunavut (4.5)	Couple with child(ren) less than 18 y Household	Food insecure, moderate	Statistically different from the Canada rate (17)	1	1
Nunavut (4.5)	Couple with child(ren) less than 18 y Household	Food insecure, severe	Number of households	177	441
Nunavut (4.5)	Couple with child(ren) less than 18 y Household	Food insecure, severe	Percent of households	10.4	19.8
Nunavut (4.5)	Couple with child(ren) less than 18 y Household	Food insecure, severe	Statistically different from the Canada rate (17)	1	1
Nunavut (4.5)	Couple with child(ren) less than 18 y Household	Food secure	Number of households	1136	1214
Nunavut (4.5)	Couple with child(ren) less than 18 y Adult	Food secure	Percent of households	65.9	53.9
Nunavut (4.5)	Couple with child(ren) less than 18 y Adult	Food secure	Statistically different from the Canada rate (17)	-1	-1
Nunavut (4.5)	Couple with child(ren) less than 18 y Adult	Food insecure, moderate	Number of households	393	606
Nunavut (4.5)	Couple with child(ren) less than 18 y Adult	Food insecure, moderate	Percent of households	22.8	26.9
Nunavut (4.5)	Couple with child(ren) less than 18 y Adult	Food insecure, moderate	Statistically different from the Canada rate (17)	1	1
Nunavut (4.5)	Couple with child(ren) less than 18 y Adult	Food insecure, severe	Number of households	195	431
Nunavut (4.5)	Couple with child(ren) less than 18 y Adult	Food insecure, severe	Percent of households	11.3	19.2
Nunavut (4.5)	Couple with child(ren) less than 18 y Adult	Food insecure, severe	Statistically different from the Canada rate (17)	1	1
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food secure	Number of households	1297	1492
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food secure	Percent of households	75.7	66.8
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food secure	Statistically different from the Canada rate (17)	-1	-1
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, moderate	Number of households	306	533
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, moderate	Percent of households	17.8	23.8
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, moderate	Statistically different from the Canada rate (17)	1	1
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, severe	Number of households	F	210
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, severe	Percent of households	F	9.4
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, severe	Statistically different from the Canada rate (17)	..	1
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food secure	Number of households	250	308
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food secure	Percent of households	54.4	54.1
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food secure	Statistically different from the Canada rate (17)	-1	-1
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, moderate	Number of households	125	23.8
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, moderate	Percent of households	27.3	0
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, moderate	Statistically different from the Canada rate (17)	0	0
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, severe	Number of households	84	125
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, severe	Percent of households	18.3	22.1
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, severe	Statistically different from the Canada rate (17)	1	1
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food secure	Number of households	250	308
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food secure	Percent of households	53.3	54.1
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food secure	Statistically different from the Canada rate (17)	-1	-1
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, moderate	Number of households	141	148
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, moderate	Percent of households	30.1	26
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, moderate	Statistically different from the Canada rate (17)	1	0
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, severe	Number of households	78	F
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, severe	Percent of households	16.7	F
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, severe	Statistically different from the Canada rate (17)	1	..
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food secure	Number of households	285	399
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food secure	Percent of households	59.7	70.1
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food secure	Statistically different from the Canada rate (17)	-1	-1
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, moderate	Number of households	161	F
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, moderate	Percent of households	33.6	19.6
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, moderate	Statistically different from the Canada rate (17)	1	0
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, severe	Number of households	F	F
Nunavut (4.5)	Couple with child(ren) less than 18 y Child	Food insecure, severe	Percent of households	F	F

Appendix B (continued)

Table 105-0545 Household food insecurity measures, by living arrangement, Canada, provinces and territories

Nunavut (4.5)	Lone parent with child(ren) less than Child	Food insecure, severe	Statistically different from the Canada rate (17)	..	F	808	1054
Nunavut (4.5)	Other living arrangements	Food secure	Number of households			55.3	61.1
Nunavut (4.5)	Household	Food secure	Percent of households			-1	-1
Nunavut (4.5)	Household	Food secure	Statistically different from the Canada rate (17)			406	342
Nunavut (4.5)	Household	Food insecure, moderate	Number of households			27.7	19.8
Nunavut (4.5)	Household	Food insecure, moderate	Percent of households			1	1
Nunavut (4.5)	Household	Food insecure, moderate	Statistically different from the Canada rate (17)			249 F	
Nunavut (4.5)	Household	Food insecure, severe	Number of households			17	19
Nunavut (4.5)	Household	Food insecure, severe	Percent of households			1	1
Nunavut (4.5)	Household	Food insecure, severe	Statistically different from the Canada rate (17)			820	1081
Nunavut (4.5)	Adult	Food secure	Number of households			56.1	62.4
Nunavut (4.5)	Adult	Food secure	Percent of households			-1	-1
Nunavut (4.5)	Adult	Food insecure, moderate	Statistically different from the Canada rate (17)			406	333
Nunavut (4.5)	Adult	Food insecure, moderate	Number of households			27.7	19.2
Nunavut (4.5)	Adult	Food insecure, moderate	Percent of households			1	1
Nunavut (4.5)	Adult	Food insecure, severe	Statistically different from the Canada rate (17)			237 F	
Nunavut (4.5)	Adult	Food insecure, severe	Number of households			16.2	18.5
Nunavut (4.5)	Adult	Food insecure, severe	Percent of households			1	1
Nunavut (4.5)	Adult	Food insecure, severe	Statistically different from the Canada rate (17)			610	639
Nunavut (4.5)	Child	Food secure	Number of households			68.7	66.1
Nunavut (4.5)	Child	Food secure	Percent of households			-1	-1
Nunavut (4.5)	Child	Food insecure, moderate	Statistically different from the Canada rate (17)			220	161
Nunavut (4.5)	Child	Food insecure, moderate	Number of households			24.8	16.6
Nunavut (4.5)	Child	Food insecure, moderate	Percent of households			1	1
Nunavut (4.5)	Child	Food insecure, severe	Statistically different from the Canada rate (17)		F	F	
Nunavut (4.5)	Child	Food insecure, severe	Number of households		F	F	
Nunavut (4.5)	Child	Food insecure, severe	Percent of households		..	..
Nunavut (4.5)	Child	Food insecure, severe	Statistically different from the Canada rate (17)		..	..

Legend:

E Use with caution

F Too unreliable to be published

.. Not available

... Not applicable

Footnotes:

1 Source: Statistics Canada, Canadian Community Health Survey (CCHS)

2 For this data set, household weights were used.

3 Since 2007, data for the Canadian Community Health Survey (CCHS) are collected yearly instead of every two years. While a sample of approximately 130,000 respondents has been interviewed

4 Beginning with the 2008 and 2007/2008 reference periods, weighting controls on the proportion of Aboriginal and non-Aboriginal as well as capital and non-capital have been put in place for Yr

5 The Canadian Community Health Survey is administered in Nunavut, using an alternative methodology that accommodates some of the operational difficulties inherent to remote locales. The 1

6 This variable is derived from the household roster dataset, along with variables indicating children less than 18 years old.

7 Cases where the living arrangement could not be determined were excluded from this table.

8 This variable is based on the Canadian Community Health Survey (CCHS) Food Security module, a set of 18 questions, and indicates whether households both with and without children were ab

9 This variable is based on a set of 18 questions and indicates whether households both with and without children were able to afford the food they needed in the previous 12 months. The levels

10 Since 2009, all rates in this table are calculated excluding non-response categories ("refusal", "don't know", and "not stated") in the denominator.

11 Percentages are rounded to the nearest tenth. Numbers are rounded to the nearest unit.

12 Confidence intervals describe sampling variability and give an indication of the precision of a given estimate. When comparing estimates, it is important to use confidence intervals to determine

13 Bootstrapping techniques were used to produce the coefficient of variation (CV) and 95% confidence intervals (CIs).

14 Data with a coefficient of variation (CV) from 16.6% to 33.3% are identified as follows: (E) use with caution.

15 Data with a coefficient of variation (CV) greater than 33.3% were suppressed due to extreme sampling variability and are identified as follows: (F) too unreliable to be published.

16 The following standard symbols are used in this Statistics Canada table: (..) for figures not available for a specific reference period and (..) for figures not applicable.

17 This variable provides direction and statistical significance of the difference between estimates (p < 0.05). A value of +1 means the difference observed is significantly higher, -1 means the differ

Appendix C

Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2013 boundaries) and peer groups

Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2013 boundaries) and peer groups, occasional(1,56,57,88,89,90)									
Survey or program details:									
Canadian Community Health Survey - Annual Component - 3226									
Geography (2,3)	Age group	Sex	Indicators	Characteristics (50,51,52,53,54,71,84,87)	2010	2011	2012	2013	2014
Yukon [60] [58]	Total, 12 years and over	Both sexes	Perceived health, very good or excellent (16)	Number of persons	16793	17649	16771	17956	17941
Yukon [60] [58]	Total, 12 years and over	Both sexes	Perceived health, very good or excellent (16)	Percent	56.9	59.1	55.3	57.9	57.4
Yukon [60] [58]	Total, 12 years and over	Both sexes	Perceived health, fair or poor (16)	Number of persons	3779	3524	3545	3313	3864
Yukon [60] [58]	Total, 12 years and over	Both sexes	Perceived health, fair or poor (16)	Percent	12.8	11.8	11.7	10.7	12.4
Yukon [60] [58]	Total, 12 years and over	Both sexes	Perceived mental health, very good or excellent (17)	Number of persons	20933	19066	21411	20207	19765
Yukon [60] [58]	Total, 12 years and over	Both sexes	Perceived mental health, very good or excellent (17)	Percent	71.6	64.6	71.6	65.5	63.8
Yukon [60] [58]	Total, 12 years and over	Both sexes	Perceived mental health, fair or poor (17)	Number of persons	1777	1892	1332	2247	2358
Yukon [60] [58]	Total, 12 years and over	Both sexes	Perceived mental health, fair or poor (17)	Percent	6.1	6.4	4.5	7.3	7.6
Yukon [60] [58]	Total, 12 years and over	Both sexes	Life satisfaction, satisfied or very satisfied (72,73)	Number of persons	27329	27723	27681	27980	28516
Yukon [60] [58]	Total, 12 years and over	Both sexes	Life satisfaction, satisfied or very satisfied (72,73)	Percent	93.6	94.7	93	90.9	92.3
Yukon [60] [58]	Total, 12 years and over	Both sexes	Perceived life stress, quite a lot (15 years and over) (18,19)	Number of persons	5036	6551	6198	6011	7696
Yukon [60] [58]	Total, 12 years and over	Both sexes	Perceived life stress, quite a lot (15 years and over) (18,19)	Percent	18	22.7	21.6	20.3	25.7
Yukon [60] [58]	Total, 12 years and over	Both sexes	Arthritis (20,21)	Number of persons	4198	4518	4353	5806	5155
Yukon [60] [58]	Total, 12 years and over	Both sexes	Arthritis (20,21)	Percent	15	15.7	15.2	19.5	17.3
Yukon [60] [58]	Total, 12 years and over	Both sexes	Diabetes (22,23)	Number of persons	1614	1343	2606	1537	2439
Yukon [60] [58]	Total, 12 years and over	Both sexes	Diabetes (22,23)	Percent	5.5	4.5	8.6	5	7.8
Yukon [60] [58]	Total, 12 years and over	Both sexes	Asthma (24)	Number of persons	3095	3021	2934	2268	1957
Yukon [60] [58]	Total, 12 years and over	Both sexes	Asthma (24)	Percent	10.5	10.1	9.7	7.3	6.3
Yukon [60] [58]	Total, 12 years and over	Both sexes	High blood pressure (25)	Number of persons	3326	4104	4290	4874	4677
Yukon [60] [58]	Total, 12 years and over	Both sexes	High blood pressure (25)	Percent	11.3	13.7	14.2	15.7	15
Yukon [60] [58]	Total, 12 years and over	Both sexes	Fruit and vegetable consumption, 5 times or more per day (37,63)	Number of persons	14951	11942	11477	9753	12424
Yukon [60] [58]	Total, 12 years and over	Both sexes	Fruit and vegetable consumption, 5 times or more per day (37,63)	Percent	52.5	41.5	38.8	32.6	41.5
Yukon [60] [58]	Total, 12 years and over	Both sexes	Physical activity during leisure-time, moderately active or active (38,39)	Number of persons	17962	18211	19885	20414	20014
Yukon [60] [58]	Total, 12 years and over	Both sexes	Physical activity during leisure-time, moderately active or active (38,39)	Percent	61.7	61.7	66.4	66.1	64.6
Yukon [60] [58]	Total, 12 years and over	Both sexes	Physical activity during leisure-time, inactive (38,39)	Number of persons	11148	11315	10060	10457	10988
Yukon [60] [58]	Total, 12 years and over	Both sexes	Physical activity during leisure-time, inactive (38,39)	Percent	38.3	38.3	33.6	33.9	35.4
Yukon [60] [58]	Total, 12 years and over	Both sexes	Body mass index, self-reported, adult (18 years and over), overweight or obese (40,41,42,43)	Number of persons	13460	14114	13727	17659	15453
Yukon [60] [58]	Total, 12 years and over	Both sexes	Body mass index, self-reported, adult (18 years and over), overweight or obese (40,41,42,43)	Percent	51.8	55	51.5	64.2	57.1
Yukon [60] [58]	Total, 12 years and over	Both sexes	Body mass index, self-reported, youth (12 to 17 years old), overweight or obese (40,41,64)	Number of persons	694 F	F	F	770	718
Yukon [60] [58]	Total, 12 years and over	Both sexes	Body mass index, self-reported, youth (12 to 17 years old), overweight or obese (40,41,64)	Percent	35 F	F	F	36.2	32
Yukon [60] [58]	Total, 12 years and over	Both sexes	Sense of belonging to local community, somewhat strong or very strong (45)	Number of persons	23804	23058	21909	22396	22564
Yukon [60] [58]	Total, 12 years and over	Both sexes	Sense of belonging to local community, somewhat strong or very strong (45)	Percent	82	78.6	73.3	73.1	73.5
Yukon [60] [58]	Total, 12 years and over	Both sexes	Has a regular medical doctor (46)	Number of persons	22646	23571	21643	22734	23119
Yukon [60] [58]	Total, 12 years and over	Both sexes	Has a regular medical doctor (46)	Percent	76.8	79.4	71.4	73.3	73.9
Yukon [60] [58]	Total, 12 years and over	Both sexes	Contact with a medical doctor in the past 12 months (47,48,88)	Number of persons	24823 ..		23841	25754	23749
Yukon [60] [58]	Total, 12 years and over	Both sexes	Contact with a medical doctor in the past 12 months (47,48,88)	Percent	84.6 ..		79	83.4	76.1
Yukon [60] [58]	Total, 12 years and over	Both sexes	Chronic obstructive pulmonary disease (COPD) (81)	Number of persons	894	774	641	586	1142
Yukon [60] [58]	Total, 12 years and over	Both sexes	Chronic obstructive pulmonary disease (COPD) (81)	Percent	4.7	4	3.3	2.9	5.6
Northwest Territories [61]	Total, 12 years and over	Both sexes	Perceived health, very good or excellent (16)	Number of persons	16663	17498	18883	19167	17850
Northwest Territories [61]	Total, 12 years and over	Both sexes	Perceived health, very good or excellent (16)	Percent	47	49.8	54	54.6	50.6
Northwest Territories [61]	Total, 12 years and over	Both sexes	Perceived mental health, fair or poor (17)	Number of persons	4317	4939	3111	3398	4708
Northwest Territories [61]	Total, 12 years and over	Both sexes	Perceived mental health, fair or poor (17)	Percent	12.2	14	8.9	9.7	13.3
Northwest Territories [61]	Total, 12 years and over	Both sexes	Perceived mental health, very good or excellent (17)	Number of persons	20306	21504	22273	22865	21069
Northwest Territories [61]	Total, 12 years and over	Both sexes	Perceived mental health, very good or excellent (17)	Percent	57.9	61.3	64.3	66.9	60.5
Northwest Territories [61]	Total, 12 years and over	Both sexes	Perceived mental health, fair or poor (17)	Number of persons	2434	2349	2324	2418	2974
Northwest Territories [61]	Total, 12 years and over	Both sexes	Perceived mental health, fair or poor (17)	Percent	6.9	6.7	6.7	7.1	8.5
Northwest Territories [61]	Total, 12 years and over	Both sexes	Life satisfaction, satisfied or very satisfied (72,73)	Number of persons	30873	31762	30703	31329	30611
Northwest Territories [61]	Total, 12 years and over	Both sexes	Life satisfaction, satisfied or very satisfied (72,73)	Percent	90.4	91	89.2	91.6	88.8
Northwest Territories [61]	Total, 12 years and over	Both sexes	Perceived life stress, quite a lot (15 years and over) (18,19)	Number of persons	5709	6455	6322	5533	7278
Northwest Territories [61]	Total, 12 years and over	Both sexes	Perceived life stress, quite a lot (15 years and over) (18,19)	Percent	16.8	19.5	19.2	16.7	21.7
Northwest Territories [61]	Total, 12 years and over	Both sexes	Arthritis (20,21)	Number of persons	4568	4095	5200	4641	5530
Northwest Territories [61]	Total, 12 years and over	Both sexes	Arthritis (20,21)	Percent	13.4	12.4	15.7	14	16.5
Northwest Territories [61]	Total, 12 years and over	Both sexes	Diabetes (22,23)	Number of persons	1418	1177	1676	1767	2582
Northwest Territories [61]	Total, 12 years and over	Both sexes	Diabetes (22,23)	Percent	4	3.3	4.8	5.1	7.3
Northwest Territories [61]	Total, 12 years and over	Both sexes	Asthma (24)	Number of persons	2415	2328	2399	1864	2969
Northwest Territories [61]	Total, 12 years and over	Both sexes	Asthma (24)	Percent	6.8	6.6	6.9	5.3	8.4
Northwest Territories [61]	Total, 12 years and over	Both sexes	High blood pressure (25)	Number of persons	4196	3119	3353	4774	4340

Appendix C (continued)

Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2013 boundaries) and peer groups

Northwest Territories [61]	Total, 12 years and over	High blood pressure (25)	Percent	11.9	8.9	9.6	13.7	12.3
Northwest Territories [61]	Total, 12 years and over	Fruit and vegetable consumption, 5 times or more per day (37,63)	Number of persons	9253	10053	12539	12404	10706
Northwest Territories [61]	Total, 12 years and over	Fruit and vegetable consumption, 5 times or more per day (37,63)	Percent	26.9	29.3	37.3	37.5	31.8
Northwest Territories [61]	Total, 12 years and over	Physical activity during leisure-time, moderately active or active (38,39)	Number of persons	17711	18169	19730	19470	20046
Northwest Territories [61]	Total, 12 years and over	Physical activity during leisure-time, moderately active or active (38,39)	Percent	50.5	51.8	56.7	56.7	57.5
Northwest Territories [61]	Total, 12 years and over	Physical activity during leisure-time, inactive (38,39)	Number of persons	17380	16893	15076	14853	14800
Northwest Territories [61]	Total, 12 years and over	Physical activity during leisure-time, inactive (38,39)	Percent	49.5	48.2	43.3	43.3	42.5
Northwest Territories [61]	Total, 12 years and over	Body mass index, self-reported, adult (18 years and over), overweight or obese (40,41,42,43)	Number of persons	15097	17029	18267	16994	19607
Northwest Territories [61]	Total, 12 years and over	Body mass index, self-reported, adult (18 years and over), overweight or obese (40,41,42,43)	Percent	54.2	60.7	61.9	57.4	64.7
Northwest Territories [61]	Total, 12 years and over	Body mass index, self-reported, youth (12 to 17 years old), overweight or obese (40,41,42,43)	Number of persons	938	948 F		1128	1051
Northwest Territories [61]	Total, 12 years and over	Body mass index, self-reported, youth (12 to 17 years old), overweight or obese (40,41,42,43)	Percent	28.4	27.9 F		35.6	35.2
Northwest Territories [61]	Total, 12 years and over	Sense of belonging to local community, somewhat strong or very strong (45)	Number of persons	26394	27575	27632	26822	27709
Northwest Territories [61]	Total, 12 years and over	Sense of belonging to local community, somewhat strong or very strong (45)	Percent	76.2	80.2	80.2	78.9	80.3
Northwest Territories [61]	Total, 12 years and over	Has a regular medical doctor (46)	Number of persons	14216	12774	13877	14690	14944
Northwest Territories [61]	Total, 12 years and over	Has a regular medical doctor (46)	Percent	40.3	36.4	39.7	41.9	42.3
Northwest Territories [61]	Total, 12 years and over	Contact with a medical doctor in the past 12 months (47,48,88)	Number of persons	23461 ..		25030	23675	24340
Northwest Territories [61]	Total, 12 years and over	Contact with a medical doctor in the past 12 months (47,48,88)	Percent	66.3 ..		72.2	68.3	69.2
Northwest Territories [61]	Total, 12 years and over	Chronic obstructive pulmonary disease (COPD) (81)	F	F	F	F	F	F
Northwest Territories [61]	Total, 12 years and over	Chronic obstructive pulmonary disease (COPD) (81)	Percent	78.04	69.50	78.85	99.48	99.70
Northwest Territories [61]	Total, 12 years and over	Perceived health, very good or excellent (16)	Number of persons	45.6	40.6	45.1	39	37.1
Northwest Territories [61]	Total, 12 years and over	Perceived health, very good or excellent (16)	Percent	1695	2617	2324	4109	3927
Northwest Territories [61]	Total, 12 years and over	Perceived health, fair or poor (16)	Number of persons	11295	9086	10347	14020	13984
Northwest Territories [61]	Total, 12 years and over	Perceived mental health, very good or excellent (17)	Number of persons	67.1	53.8	60.1	55.3	53.6
Northwest Territories [61]	Total, 12 years and over	Perceived mental health, very good or excellent (17)	Percent	930	799	1829	1336 F	F
Northwest Territories [61]	Total, 12 years and over	Perceived mental health, fair or poor (17)	Number of persons	5.5	4.7	10.6	5.3 F	F
Northwest Territories [61]	Total, 12 years and over	Perceived mental health, fair or poor (17)	Percent	15484	15367	14326	21822	22411
Northwest Territories [61]	Total, 12 years and over	Life satisfaction, satisfied or very satisfied (72,73)	Number of persons	91.5	91.8	83.8	87	86.6
Northwest Territories [61]	Total, 12 years and over	Life satisfaction, satisfied or very satisfied (72,73)	Percent	2835	3041	2853	3638	4664
Northwest Territories [61]	Total, 12 years and over	Perceived life stress, quite a lot (15 years and over) (18,19)	Number of persons	18.2	19.6	18	15.6	18.8
Northwest Territories [61]	Total, 12 years and over	Perceived life stress, quite a lot (15 years and over) (18,19)	Percent	1898	1784	1954	2744	2950
Northwest Territories [61]	Total, 12 years and over	Arthritis (20,21)	Number of persons	12	11.4	12.3	11.7	11.7
Northwest Territories [61]	Total, 12 years and over	Arthritis (20,21)	F	F	F	F	F	F
Northwest Territories [61]	Total, 12 years and over	Diabetes (22,23)	F	F	F	F	F	F
Northwest Territories [61]	Total, 12 years and over	Diabetes (22,23)	Percent	1537	2432	2283	3527	2218
Northwest Territories [61]	Total, 12 years and over	Asthma (24)	Number of persons	9	14.1	13.1	13.9	8.3
Northwest Territories [61]	Total, 12 years and over	Asthma (24)	Percent	3794	3324	4786	5678	5686
Northwest Territories [61]	Total, 12 years and over	High blood pressure (25)	Number of persons	22.8	20.2	28.1	23.3	23.9
Northwest Territories [61]	Total, 12 years and over	Fruit and vegetable consumption, 5 times or more per day (37,63)	Number of persons	7818	6365	8559	12067	10502
Northwest Territories [61]	Total, 12 years and over	Physical activity during leisure-time, moderately active or active (38,39)	Number of persons	46.1	37.3	49.7	47.4	39.7
Northwest Territories [61]	Total, 12 years and over	Physical activity during leisure-time, moderately active or active (38,39)	Percent	9154	10686	8656	13373	15949
Northwest Territories [61]	Total, 12 years and over	Physical activity during leisure-time, inactive (38,39)	Number of persons	53.9	62.7	50.3	52.6	60.3
Northwest Territories [61]	Total, 12 years and over	Physical activity during leisure-time, inactive (38,39)	Percent	7744	7773	7000	10288	9469
Northwest Territories [61]	Total, 12 years and over	Body mass index, self-reported, adult (18 years and over), overweight or obese (40,41,42,43)	Number of persons	60.1	58.2	54.4	59.5	49.4
Northwest Territories [61]	Total, 12 years and over	Body mass index, self-reported, adult (18 years and over), overweight or obese (40,41,42,43)	Percent			826 F		F
Northwest Territories [61]	Total, 12 years and over	Body mass index, self-reported, youth (12 to 17 years old), overweight or obese (40,41,42,43)	Number of persons			45.4 F		F
Northwest Territories [61]	Total, 12 years and over	Body mass index, self-reported, youth (12 to 17 years old), overweight or obese (40,41,42,43)	Percent	14680	13667	14645	21707	22362
Northwest Territories [61]	Total, 12 years and over	Sense of belonging to local community, somewhat strong or very strong (45)	Number of persons	87.6	81.8	85.2	85.9	85.1
Northwest Territories [61]	Total, 12 years and over	Sense of belonging to local community, somewhat strong or very strong (45)	Percent	2247	2679	3123	3918	4651
Northwest Territories [61]	Total, 12 years and over	Has a regular medical doctor (46)	Number of persons	13.2	15.5	17.9	15.4	17.5
Northwest Territories [61]	Total, 12 years and over	Has a regular medical doctor (46)	Percent	8390 ..		10073	13143	11815
Northwest Territories [61]	Total, 12 years and over	Contact with a medical doctor in the past 12 months (47,48,88)	Number of persons	49.9 ..		58	52.4	44.4
Northwest Territories [61]	Total, 12 years and over	Contact with a medical doctor in the past 12 months (47,48,88)	Percent		F	F	F	F
Northwest Territories [61]	Total, 12 years and over	Chronic obstructive pulmonary disease (COPD) (81)	F	F	F	F	F	F
Northwest Territories [61]	Total, 12 years and over	Chronic obstructive pulmonary disease (COPD) (81)	Percent					

Use with caution

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Appendix D

Table 105-4009 Body mass index (BMI), by sex, household population aged 18 and over excluding pregnant females, Canada, provinces and territories

Table 105-4009 Body mass index (BMI), by sex, household population aged 18 and over excluding pregnant females, Canada, provinces and territories, occasional(1,2,3,4,5,6) Survey or program details:									
Canadian Community Health Survey - Annual Component - 3226									
National Population Health Survey: Household Component, Cross-sectional - 3236									
National Population Health Survey: North Component - 5004									
Geography	Sex	Body mass index (BMI) (2,3,4,5)	Characteristics (6,7,8,9,10,13)	1998	2000	2003	2005	2007	
Canada (11)	Males	Total population for the variable body mass index	Number of persons	11061258	11459359	11794013	12053251	12388600	
Canada (11)	Males	Total population for the variable body mass index	Percent	100	100	100	100	100	
Canada (11)	Males	Total population for the variable body mass index	Age-standardized rate	100	100	100	100	100	
Canada (11)	Males	Underweight, body mass index under 18.50	Number of persons	138584	147500	136968	132106	148067	
Canada (11)	Males	Underweight, body mass index under 18.50	Percent	1.3	1.3	1.2	1.1	1.2	
Canada (11)	Males	Underweight, body mass index under 18.50	Age-standardized rate	1.3	1.4	1.2	1.2	1.3	
Canada (11)	Males	Normal weight, body mass index 18.50 to 24.99	Number of persons	4381137	5016635	4862345	4885947	4760753	
Canada (11)	Males	Normal weight, body mass index 18.50 to 24.99	Percent	39.6	43.8	41.2	40.5	38.4	
Canada (11)	Males	Normal weight, body mass index 18.50 to 24.99	Age-standardized rate	40.4	44.6	42.2	41.6	39.5	
Canada (11)	Males	Overweight, body mass index 25.00 to 29.99	Number of persons	4881256	4464617	4837330	4926770	4864103	
Canada (11)	Males	Overweight, body mass index 25.00 to 29.99	Percent	44.1	39	41	40.9	39.3	
Canada (11)	Males	Overweight, body mass index 25.00 to 29.99	Age-standardized rate	43.7	38.4	40.3	40.3	38.6	
Canada (11)	Males	Obese, body mass index 30.00 or higher	Number of persons	1602732	1753430	1877678	2022338	2124279	
Canada (11)	Males	Obese, body mass index 30.00 or higher	Percent	14.5	15.3	15.9	16.8	17.1	
Canada (11)	Males	Obese, body mass index 30.00 or higher	Age-standardized rate	14	15	15.6	16.2	16.7	
Canada (11)	Males	Body mass index, not stated	Number of persons	57550	77177	79693	86090	491398	
Canada (11)	Males	Body mass index, not stated	Percent	0.5	0.7	0.7	0.7	4	
Canada (11)	Males	Body mass index, not stated	Age-standardized rate	0.5	0.7	0.7	0.7	4	
Canada (11)	Females	Total population for the variable body mass index	Number of persons	11382673	11668906	12043745	12288144	12647413	
Canada (11)	Females	Total population for the variable body mass index	Percent	100	100	100	100	100	
Canada (11)	Females	Total population for the variable body mass index	Age-standardized rate	100	100	100	100	100	
Canada (11)	Females	Underweight, body mass index under 18.50	Number of persons	369419	526424	494072	526184	490388	
Canada (11)	Females	Underweight, body mass index under 18.50	Percent	3.2	4.5	4.1	4.3	3.9	
Canada (11)	Females	Underweight, body mass index under 18.50	Age-standardized rate	3.5	4.8	4.5	4.7	4.4	
Canada (11)	Females	Normal weight, body mass index 18.50 to 24.99	Number of persons	6192521	6184048	6278001	6364283	6352595	
Canada (11)	Females	Normal weight, body mass index 18.50 to 24.99	Percent	54.4	53	52.1	51.8	50.2	
Canada (11)	Females	Normal weight, body mass index 18.50 to 24.99	Age-standardized rate	55.4	54.2	53.5	53.3	52.1	
Canada (11)	Females	Overweight, body mass index 25.00 to 29.99	Number of persons	2991785	3024664	3091694	3205872	3251487	
Canada (11)	Females	Overweight, body mass index 25.00 to 29.99	Percent	26.3	25.9	25.7	26.1	25.7	
Canada (11)	Females	Overweight, body mass index 25.00 to 29.99	Age-standardized rate	25.4	24.9	24.5	24.8	24.2	
Canada (11)	Females	Obese, body mass index 30.00 or higher	Number of persons	1566488	1600203	1670317	1742326	1892456	
Canada (11)	Females	Obese, body mass index 30.00 or higher	Percent	13.8	13.7	13.9	14.2	15	
Canada (11)	Females	Obese, body mass index 30.00 or higher	Age-standardized rate	13.3	13.2	13.3	13.6	14.3	
Canada (11)	Females	Body mass index, not stated	Number of persons	262461	333568	509660	449479	660487	
Canada (11)	Females	Body mass index, not stated	Percent	2.3	2.9	4.2	3.7	5.2	
Canada (11)	Females	Body mass index, not stated	Age-standardized rate	2.4	2.8	4.3	3.7	4.9	
Yukon	Males	Total population for the variable body mass index	Number of persons	9787	11180	11077	12154	12087	
Yukon	Males	Total population for the variable body mass index	Percent	100	100	100	100	100	

Appendix D (continued)

Table 105-4009 Body mass index (BMI), by sex, household population aged 18 and over excluding pregnant females, Canada, provinces and territories

Yukon	Males	Total population for the variable body mass index	Age-standardized rate	100	100	100	100	100	100
Yukon	Males	Underweight, body mass index under 18.50	Number of persons	F	F	F	F	F	F
Yukon	Males	Underweight, body mass index under 18.50	Percent	F	F	F	F	F	F
Yukon	Males	Underweight, body mass index under 18.50	Age-standardized rate	F	F	F	F	F	F
Yukon	Males	Normal weight, body mass index 18.50 to 24.99	Number of persons	3501	5172	4452	5640	4717	4717
Yukon	Males	Normal weight, body mass index 18.50 to 24.99	Percent	35.8	46.3	40.2	46.4	39	39
Yukon	Males	Normal weight, body mass index 18.50 to 24.99	Age-standardized rate	37.5	46.8	41.4	45.9	38.6	38.6
Yukon	Males	Overweight, body mass index 25.00 to 29.99	Number of persons	4281	4067	4105	4484	3536	3536
Yukon	Males	Overweight, body mass index 25.00 to 29.99	Percent	43.7	36.4	37.1	36.9	29.3	29.3
Yukon	Males	Overweight, body mass index 25.00 to 29.99	Age-standardized rate	40.2	35.3	38.8	36.4	28.4	28.4
Yukon	Males	Obese, body mass index 30.00 or higher	Number of persons	1429	1759	2205	1801	3447	3447
Yukon	Males	Obese, body mass index 30.00 or higher	Percent	14.6	15.7	19.9	14.8	28.5	28.5
Yukon	Males	Obese, body mass index 30.00 or higher	Age-standardized rate	15.6	16.1	17.8	15.9	29.1	29.1
Yukon	Males	Body mass index, not stated	Number of persons	513 F	F	F	F	F	F
Yukon	Males	Body mass index, not stated	Percent	5.2 F	F	F	F	F	F
Yukon	Males	Body mass index, not stated	Age-standardized rate	5.9 F	F	F	F	F	F
Yukon	Females	Total population for the variable body mass index	Number of persons	8791	10605	10950	11931	11916	11916
Yukon	Females	Total population for the variable body mass index	Percent	100	100	100	100	100	100
Yukon	Females	Total population for the variable body mass index	Age-standardized rate	100	100	100	100	100	100
Yukon	Females	Underweight, body mass index under 18.50	Number of persons	F	F	F	F	F	F
Yukon	Females	Underweight, body mass index under 18.50	Percent	F	F	F	F	F	F
Yukon	Females	Underweight, body mass index under 18.50	Age-standardized rate	F	F	F	F	F	F
Yukon	Females	Normal weight, body mass index 18.50 to 24.99	Number of persons	2666	5805	5404	5978	5986	5986
Yukon	Females	Normal weight, body mass index 18.50 to 24.99	Percent	30.3	54.7	49.4	50.1	50.2	50.2
Yukon	Females	Normal weight, body mass index 18.50 to 24.99	Age-standardized rate	34.8	53.2	50.3	49.9	50.1	50.1
Yukon	Females	Overweight, body mass index 25.00 to 29.99	Number of persons	1552	2283	2488	2806	2614	2614
Yukon	Females	Overweight, body mass index 25.00 to 29.99	Percent	17.7	21.5	22.7	23.5	21.9	21.9
Yukon	Females	Overweight, body mass index 25.00 to 29.99	Age-standardized rate	21.6	23.5	22.8	23.3	21.7	21.7
Yukon	Females	Obese, body mass index 30.00 or higher	Number of persons	637	1746	2341	2494	2593	2593
Yukon	Females	Obese, body mass index 30.00 or higher	Percent	7.2	16.5	21.4	20.9	21.8	21.8
Yukon	Females	Obese, body mass index 30.00 or higher	Age-standardized rate	9.2	15.7	20.4	21.3	21.6	21.6
Yukon	Females	Body mass index, not stated	Number of persons	3696	515	539 F	F	F	F
Yukon	Females	Body mass index, not stated	Percent	42	4.9	4.9 F	F	F	F
Yukon	Females	Body mass index, not stated	Age-standardized rate	31.3	4.8 F	F	F	F	F
Northwest Territories	Males	Total population for the variable body mass index	Number of persons	13841	14656	14838	15660	15590	15590
Northwest Territories	Males	Total population for the variable body mass index	Percent	100	100	100	100	100	100
Northwest Territories	Males	Total population for the variable body mass index	Age-standardized rate	100	100	100	100	100	100
Northwest Territories	Males	Underweight, body mass index under 18.50	Number of persons	F	F	F	F	F	F
Northwest Territories	Males	Underweight, body mass index under 18.50	Percent	F	F	F	F	F	F
Northwest Territories	Males	Underweight, body mass index under 18.50	Age-standardized rate	F	F	F	F	F	F
Northwest Territories	Males	Normal weight, body mass index 18.50 to 24.99	Number of persons	5145	5290	5597	5501	5072	5072
Northwest Territories	Males	Normal weight, body mass index 18.50 to 24.99	Percent	37.2	36.1	37.7	35.1	32.5	32.5
Northwest Territories	Males	Normal weight, body mass index 18.50 to 24.99	Age-standardized rate	35.5	33.7	39.4	34.6	32.3	32.3
Northwest Territories	Males	Overweight, body mass index 25.00 to 29.99	Number of persons	6119	5466	5446	6120	6169	6169

Appendix D (continued)

Table 105-4009 Body mass index (BMI), by sex, household population aged 18 and over excluding pregnant females, Canada, provinces and territories

Northwest Territories Males	Overweight, body mass index 25.00 to 29.99	Percent	44.2	37.3	36.7	39.1	39.6
Northwest Territories Males	Overweight, body mass index 25.00 to 29.99	Age-standardized rate	44.9	36.9	35.8	37.5	38.3
Northwest Territories Males	Obese, body mass index 30.00 or higher	Number of persons	1935	3327	3392	3757	2956
Northwest Territories Males	Obese, body mass index 30.00 or higher	Percent	14	22.7	22.9	24	19
Northwest Territories Males	Obese, body mass index 30.00 or higher	Age-standardized rate	13.3	23.5	21.9	25.5	19.6
Northwest Territories Males	Body mass index, not stated	Number of persons	F	324 F	F	F	F
Northwest Territories Males	Body mass index, not stated	Percent	F	2.2 F	F	F	F
Northwest Territories Males	Body mass index, not stated	Age-standardized rate	F	4.3 F	F	F	F
Northwest Territories Females	Total population for the variable body mass index	Number of persons	12693	13138	13767	13871	13854
Northwest Territories Females	Total population for the variable body mass index	Percent	100	100	100	100	100
Northwest Territories Females	Total population for the variable body mass index	Age-standardized rate	100	100	100	100	100
Northwest Territories Females	Underweight, body mass index under 18.50	Number of persons	F	F	F	F	F
Northwest Territories Females	Underweight, body mass index under 18.50	Percent	F	F	F	F	F
Northwest Territories Females	Underweight, body mass index under 18.50	Age-standardized rate	F	F	F	F	F
Northwest Territories Females	Normal weight, body mass index 18.50 to 24.99	Number of persons	5497	5818	6395	5921	5759
Northwest Territories Females	Normal weight, body mass index 18.50 to 24.99	Percent	43.3	44.3	46.5	42.7	41.6
Northwest Territories Females	Normal weight, body mass index 18.50 to 24.99	Age-standardized rate	37.4	42.3	44.3	40.8	40.4
Northwest Territories Females	Overweight, body mass index 25.00 to 29.99	Number of persons	2334	3594	3653	3516	3682
Northwest Territories Females	Overweight, body mass index 25.00 to 29.99	Percent	18.4	27.4	26.5	25.3	26.6
Northwest Territories Females	Overweight, body mass index 25.00 to 29.99	Age-standardized rate	15.1	26.1	26.7	26.9	27.4
Northwest Territories Females	Obese, body mass index 30.00 or higher	Number of persons	1249	2967	2874	3488	3478
Northwest Territories Females	Obese, body mass index 30.00 or higher	Percent	9.8	22.6	20.9	25.1	25.1
Northwest Territories Females	Obese, body mass index 30.00 or higher	Age-standardized rate	7.9	24.9	22	24.1	25.1
Northwest Territories Females	Body mass index, not stated	Number of persons	3488	585	679	606 F	F
Northwest Territories Females	Body mass index, not stated	Percent	27.5	4.5	4.9	4.4 F	4.9
Northwest Territories Females	Body mass index, not stated	Age-standardized rate	39	5.2	5.9	5.4	4.9
Nunavut (12) Males	Total population for the variable body mass index	Number of persons	7401	8232	5739	6323	6581
Nunavut (12) Males	Total population for the variable body mass index	Percent	100	100	100	100	100
Nunavut (12) Males	Total population for the variable body mass index	Age-standardized rate	100	100	100	100	100
Nunavut (12) Males	Underweight, body mass index under 18.50	Number of persons	F	F	F	F	F
Nunavut (12) Males	Underweight, body mass index under 18.50	Percent	F	F	F	F	F
Nunavut (12) Males	Underweight, body mass index under 18.50	Age-standardized rate	F	F	F	F	F
Nunavut (12) Males	Normal weight, body mass index 18.50 to 24.99	Number of persons	2751	3271	2513	2254	3163
Nunavut (12) Males	Normal weight, body mass index 18.50 to 24.99	Percent	37.2	39.7	43.8	35.7	48.1
Nunavut (12) Males	Normal weight, body mass index 18.50 to 24.99	Age-standardized rate	32.4	38.6	38.3	30.7	42.4
Nunavut (12) Males	Overweight, body mass index 25.00 to 29.99	Number of persons	2340	2805	1828	2210	2038
Nunavut (12) Males	Overweight, body mass index 25.00 to 29.99	Percent	31.6	34.1	31.8	35	31
Nunavut (12) Males	Overweight, body mass index 25.00 to 29.99	Age-standardized rate	37.8	33.2	35.6	38.2	29.8
Nunavut (12) Males	Obese, body mass index 30.00 or higher	Number of persons	1247	1738	1160	1675	838
Nunavut (12) Males	Obese, body mass index 30.00 or higher	Percent	16.8	21.1	20.2	26.5	12.7
Nunavut (12) Males	Obese, body mass index 30.00 or higher	Age-standardized rate	15.6	22.5	19.5	25.5	21.1
Nunavut (12) Males	Body mass index, not stated	Number of persons	1000	306 F	F	F	F
Nunavut (12) Males	Body mass index, not stated	Percent	13.5	3.7 F	F	F	F
Nunavut (12) Males	Body mass index, not stated	Age-standardized rate	13.2	4.5 F	F	F	F

Appendix D (continued)

Table 105-4009 Body mass index (BMI), by sex, household population aged 18 and over excluding pregnant females, Canada, provinces and territories

Nunavut (12) Females	Total population for the variable body mass index	Number of persons	6315	7072	5086	5677	5999
Nunavut (12) Females	Total population for the variable body mass index	Percent	100	100	100	100	100
Nunavut (12) Females	Total population for the variable body mass index	Age-standardized rate	100	100	100	100	100
Nunavut (12) Females	Underweight, body mass index under 18.50	Number of persons	F	F	F	F	F
Nunavut (12) Females	Underweight, body mass index under 18.50	Percent	F	F	F	F	F
Nunavut (12) Females	Underweight, body mass index under 18.50	Age-standardized rate	F	F	F	F	F
Nunavut (12) Females	Normal weight, body mass index 18.50 to 24.99	Number of persons	1830	2940	2243	2137	2211
Nunavut (12) Females	Normal weight, body mass index 18.50 to 24.99	Percent	29	41.6	44.1	37.6	36.9
Nunavut (12) Females	Normal weight, body mass index 18.50 to 24.99	Age-standardized rate	24.2	34.6	40.8	38.5	35.6
Nunavut (12) Females	Overweight, body mass index 25.00 to 29.99	Number of persons	1536	1696	1237	1433	1783
Nunavut (12) Females	Overweight, body mass index 25.00 to 29.99	Percent	24.3	24	24.3	25.2	29.7
Nunavut (12) Females	Overweight, body mass index 25.00 to 29.99	Age-standardized rate	19.9	24.2	26	24.5	29.5
Nunavut (12) Females	Obese, body mass index 30.00 or higher	Number of persons	F	1770	1037	1439	1129
Nunavut (12) Females	Obese, body mass index 30.00 or higher	Percent	F	25	20.4	25.3	18.8
Nunavut (12) Females	Obese, body mass index 30.00 or higher	Age-standardized rate	F	26.1	20.8	26.5	18.7
Nunavut (12) Females	Body mass index, not stated	Number of persons	2595	491	360	F	819
Nunavut (12) Females	Body mass index, not stated	Percent	41.1	6.9	7.1	F	13.7
Nunavut (12) Females	Body mass index, not stated	Age-standardized rate	51.1	12.1	F	F	15.3

Legend:

E Use with caution

F Too unreliable to be published

Footnotes:

1 Sources: Statistics Canada, Canadian Community Health Survey (CCHS), 2000/2001, 2003, 2005 and 2007; National Population Health Survey (NPHS), 1994/1995, 1996/1997 and :
2 Population aged 18 and over, excluding pregnant females and persons less than 3 feet (0.914 metres) tall or greater than 6 feet 11 inches (2.108 metres). A definition change was
3 Body mass index (BMI) is calculated by dividing the respondent's body weight (in kilograms) by their height (in metres) squared.
4 The index is: less than 18.50 (underweight); 18.50 to 24.99 (normal weight); 25.00 to 29.99 (overweight); 30.00 to 34.99 (obese, class I); 35.00 to 39.99 (obese, class II); 40.00 or g
5 Body mass index (BMI) is a method of classifying body weight according to health risk. According to the World Health Organization (WHO) and Health Canada guidelines, health ri
6 Rates are age-standardized using the direct method and the 1991 Canadian Census population structure. The use of a standard population results in more meaningful compariso
7 When comparing estimates, it is important to use confidence intervals to determine if differences between values are statistically significant. Confidence intervals describe sampl
8 Data with a coefficient of variation (CV) from 16.6% to 33.3% are identified as follows: (E) use with caution.
9 Data with a coefficient of variation (CV) greater than 33.3% were suppressed due to extreme sampling variability and are identified as follows: (F) too unreliable to be published.
10 Currently produced National Population Health Survey (NPHS) data (cross sectional sample, health file, household component) make use of new coordinated bootstrap weights, a
11 In this table, the Canada totals for data years 1994/1995 to 1998/1999 were produced by aggregating two components of the National Population Health Survey (NPHS): househo
12 Nunavut and the Northwest Territories (excluding Nunavut) came into existence on April 1, 1999. To facilitate comparisons, data presented in this table for the Northwest Territo
13 The following standard symbols are used in this Statistics Canada table: (..) for figures not available for a specific reference period and (...) for figures not applicable.

Source:

Statistics Canada. Table 105-4009 - Body mass index (BMI), by sex, household population aged 18 and over excluding pregnant females, Canada, provinces and territories, occasional (accessed: March 10, 2016)

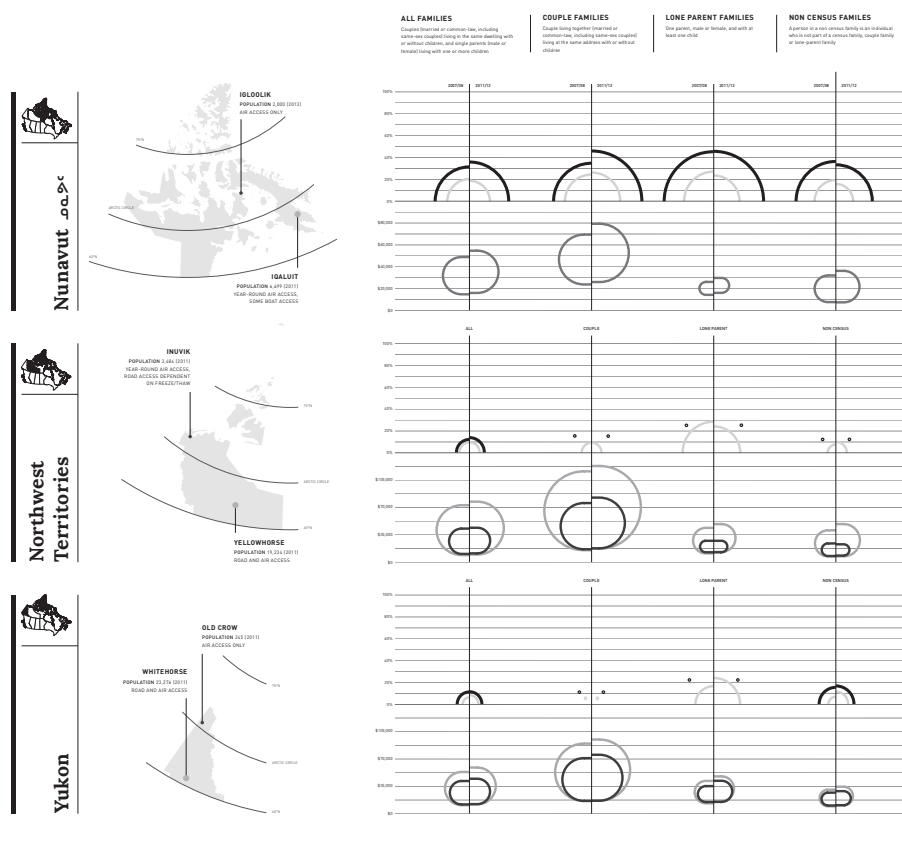
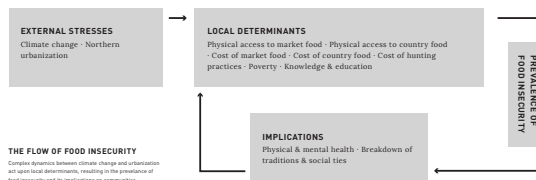
Appendix E

Final print visualization

Patterns of vulnerability

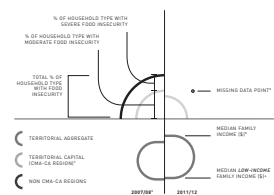
Visualizing Northern Canadian food insecurity

Although Canada has no official measure of poverty, food insecurity is present in households across the country. Food security exists when an entire population, at all times, has the physical and financial means to access adequate food. Food insecurity exists when these conditions are not met. Northern Canada's unique geographic and social landscape make its residents especially vulnerable to food insecurity. Extreme temperatures, low population density, isolated communities, inconsistent access and a higher Aboriginal population set the north apart from Canada's south. This visualization attempts to break down the complexity of food insecurity into an organized narrative, in order to establish a foundational knowledge on which to tackle food insecurity in Northern Canada.



HOW TO READ THIS VISUALIZATION

The division by family type reveals the vulnerability within certain household constructs. The vertical split along each family type shows the change in food insecurity and income between 2007/08 and 2011/12. Rings representing each data point grow, shrink or remain constant across years and between family types. Data was sourced from Statistics Canada CANSIM Tables 105-0545 and 111-0015. The research and visualization process revealed the inconsistency and lack of granularity within publicly available data related to Northern Canadian food insecurity. Consistent and geographically granular data are essential for up-to-date knowledge of the vulnerabilities to food insecurity within Northern communities.



- 1 A census metropolitan area (CMA) or census agglomeration (CA) is formally defined by a core population of at least 100,000 and a core population of at least 10,000 or more must live in the core. A CA must have a core population of at least 10,000.
- 2 Data with a coefficient of variation (CV) greater than 33.3% were suppressed due to extreme sampling variability and are too unreliable to be published.
- 3 Family income is the sum of the incomes of all members of the family. Median is the middle number in a group of numbers.
- 4 Data for low income families are based on the Low Income Measure (LIM). The LIM is a broad percentage (20%) of adjusted family income where adjusted indicates a consideration of family needs. The family size adjustment reflects the principle that family needs increase with family size. A family is considered to be low income when their income is below the LIM for their family type and size.
- 5 Data sourced from CANSIM Table 105-0545 includes two-year combined data for the periods of 2007/08 and 2011/12. Two-year combined data are less current than annual estimates, but have higher precision than annual income data sourced from Table 111-0015 was adjusted to reflect the two-year period income data for the Yukon and Northwest Territories for the 2007/08 period is based off of only 2008 estimates due to availability.

Appendix F

Final digital visualization, available online at <http://llapp.github.io/majorstudio2>

