

The cost of eating according to the 'Nutritious Food Basket'

In Manitoba
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University of Manitoba Human Ecology Students
Professional Home Economists and student members of MAHE
Registered Dietitians
Public Health Nurses

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Key Points



1. Key Points

- ✓ The cost of healthy eating for a family of 4 in **Manitoba** in May 2011 ranged from \$832.66 to \$1184.91/month.
- ✓ The cost of healthy eating for a family of 4 in **Winnipeg** in May 2011 ranged from \$778.90 to \$860.80/month.
- ✓ Competitively priced food is available to those in most areas of Manitoba (exceptions exist in very remote/northern) as long as people have transportation to purchase it in bigger stores. The cost of transportation needs to be factored into the cost of food procurement. Availability of nutritious foods goes down as the size of the store decreases i.e. smaller stores have fewer options.
- ✓ Other important factors related to food security that need to be considered and supported are:
 - Access to full service grocery stores
 - Budgeting skills
 - Literacy and numeracy
 - Access to storage and cooking equipment
 - Cooking skills
 - Self-efficacy

Executive Summary



2. Executive Summary

The Author Team is comprised of nutrition professionals who work closely with or who advocate for adequacy of diet in order to support optimum health. Since financial security is tied to food security, it is necessary to know what the cost of healthy eating is in Manitoba.

This food costing exercise was undertaken because there is no current literature that provides this information for Manitoba. The 2 most recent food costing exercises were conducted in 2006 and 2007 and were limited in scope.

The report can be used by any individual or group for program planning, informing policy decisions and supporting and promoting access to nutritious, safe and personally acceptable foods. The Ontario guidance document recommends against using information from costing reports to make comparisons within or between regions. The Author Team appreciates the variability of circumstances within and between regions and would recommend that anyone who uses this report should refrain from these comparisons.

This report would not have been possible without the substantial effort of over 75 data collectors, the commitment of the partner organizations and grant funding from professional organizations, Canadian Home Economics Foundation and Manitoba Association of Home Economists. The Author Team recommends that appropriate leadership and dedicated funding for future food recommendations costing exercises be secured prior to commencing.

In addition to adequate funds for healthy eating, the Author Team identifies that skills, knowledge and equipment are necessary for individuals and families to be well nourished.

Finally, the Author Team believes that the significance of the information that is presented for each health region and community area is best left to those who live, work and learn in the community and therefore have the best regional understanding of the relationship between the availability and cost of food and other determinants of health.

Introduction



3. Introduction

As described by the World Health Organization (WHO), food security exists “when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life”.¹ Furthermore, “the concept of food security is defined as including both physical and economic access to food that meets people’s dietary needs as well as their food preferences”.¹ The challenges in obtaining food security for both individuals and families include accessibility, affordability as well as acceptability of foods. An individual’s or family’s financial status is often closely associated with their ability to achieve food security. In fact, a lack of food security is found to be more prevalent in households in which the main source of income is social assistance or worker’s compensation/employment insurance, compared to salary/wages where it is least likely to occur.²

Nearly 10% of the Canadian population struggles to some degree with obtaining and/or maintaining food security within their households.² Attainment of safe and healthy foods is a factor in determining health outcomes for a population. An absence of food security acts as a barrier to adequate nutritional intake, as supported by findings that “people of food-insecure households consume fewer fruits and vegetables, milk products, and vitamins than those in food-secure households.”³ Food insecurity is identified as a major social determinant of health as resulting dietary deficiencies contribute to malnutrition, impact growth and development, and are associated with an increased likelihood of chronic disease development and/or poor management.³ In fact, “heart disease, diabetes, high blood pressure, and food allergies are more common among food-insecure households.”³ Stress and feelings of uncertainty associated with a lack of food security also impact health negatively.³ It is for these reasons

that achieving food security for all members of the community is a vital task. In order to work towards this goal, the establishment of the current basic cost of healthy eating is necessary.

Partnerships

The following organizations were involved in supporting the development of this report:

- Winnipeg Regional Health Authority
- Heart and Stroke Foundation, Manitoba
- Klinik Community Health Center
- Nine Circles Community Health Centre
- ACCESS Downtown Health Action Centre
- Women's Health Clinic
- Manitoba Association of Home Economists (*Grant Funding*)
- Canadian Home Economist Foundation (*Grant Funding*)

The partner organizations generously allowed staff time for the coordination of the data collection and development of the final report. No project funding was assigned to the work by the partner organizations. A total of \$3500 in grant funding was received.

Background



4. Background

History of Food Costing in Winnipeg and Manitoba

Food costing initiatives have been taken on throughout Canada for a number of years, with each province taking its own approach to monitoring the basic cost of healthy eating. In Manitoba, food costing had previously been conducted annually for several years by Manitoba Agriculture Food and Rural Initiatives (MAFRI).⁴ However, more recent costing projects in Winnipeg only included two surveys. The first one was conducted in November 2006 under the direction of Sheryl Bates Dancho, RD (unpublished).⁵ Costing was completed in five Winnipeg grocery stores and an average cost of purchasing healthy foods for a family of four was found to be \$659.76/month.⁵ Goals of this project included assessing whether obtaining a healthy diet was possible based on basic needs funding provided at the time.⁵ A review of therapeutic diet allowances was included, as a goal of establishing a benchmark cost of health eating was to assist in revising and updating allowance guidelines that reflected current best practice recommendations.⁵

In 2007, a second food costing took place once again in Winnipeg by University of Manitoba Human Ecology professor, Candice Rideout, over a one month period between September and October (unpublished).⁶ The protocol used to conduct this food costing was revised to reflect the updated recommendations of the 2007 Eating Well with Canada's Food Guide (EWCFG). A goal of this project was to assess whether following the new food guide would alter the basic cost of eating.⁶ An increase was observed when comparing costs based on previous 1998 guidelines verses those made to reflect 2007 EWCFG changes. An average cost for a family of

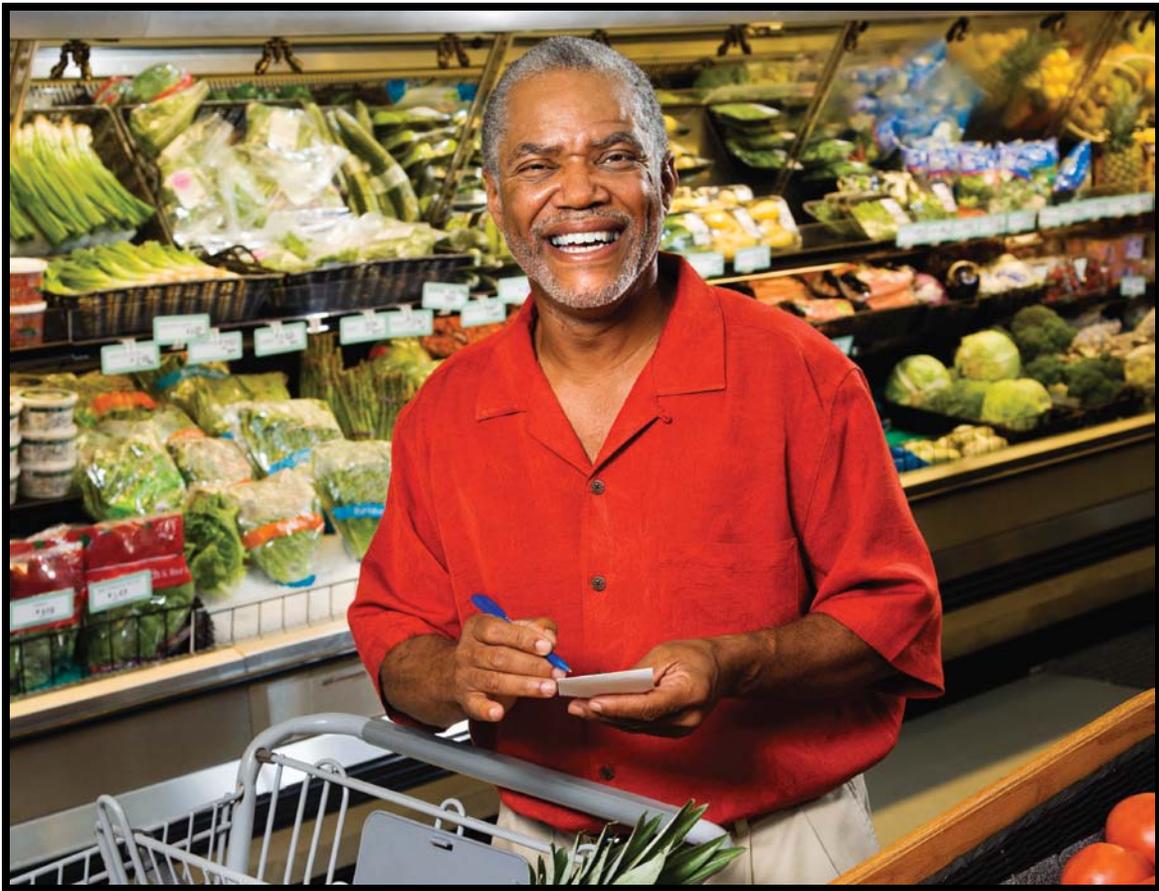
Canada's Food Guide can be viewed at
<http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index-eng.php>

four was found to be \$658.17/month in 2007 compared to \$646.50/month based on 1998 guidelines.⁶

Need for Current Food Costing in Manitoba

As food costing has not been conducted since the finalized revisions to the Nutritious Food Basket (NFB) protocol in 2008, there was need to establish the cost of healthy eating in all areas of the province that reflects current EWCFG recommendations and is based on the current market food costs. This data would provide information to assess the achievability of food security throughout urban, rural and northern Manitoba and it will provide much needed insight into food cost variability throughout the province. Food cost data can be used in areas such as “program planning, informing policy decisions, and supporting and promoting access to nutritious, safe, and personally acceptable foods”⁷ for all Manitobans. More specifically, goals include using the cost of healthy eating as a benchmark to assist in establishing rates for therapeutic diets allowance and other policy development.

Methods



5. Methods

The method by which the cost of healthy eating is established is by conducting a food costing survey. The protocol used for conducting food costing in the province of Manitoba for 2011 was based on the Government of Ontario's Nutritious Food Basket Guidance Document. The Nutritious Food Basket (NFB) document provides a standardized list of 67 food items and was developed as a survey tool to measure the cost of basic healthy eating that represents current nutrition recommendations and average food purchasing patterns.⁷ The data that results from the NFB survey can be used to calculate the "average cost of feeding up to 22 different age and sex groups", including pregnant and lactating women.⁷ From this, the cost of healthy eating for various reference households can be determined.

It is important to note that the foods listed in the NFB require preparation for which a degree of cooking expertise is assumed and does not include convenience foods such as canned soups or frozen entrees.⁷ As of 2008, the NFB was revised to reflect recommendations based on 2007 EWCFG.⁷ Foods with little nutritional value such as convenience foods are excluded from the NFB, as is the cost of food dollars spent away from the home.⁷ An additional 5% is added to the cost of the NFB to cover miscellaneous food items such as spices, condiments, baking supplies, etc.⁷ Finally, a household size adjustment factor (AF) is also applied to the cost of healthy eating. The purpose of this factor is to account for the economies and diseconomies of scale that are associated with family size. For instance, when compared to a reference family of four, smaller families would need to spend more per person on the cost of food while larger family would spend less per person.⁷

a. Sample

The 2011 Manitoba NFB costing initiative is unique in that every regional health authority in Manitoba is represented and that data has been collected from urban, rural and northern regions of the province. Full service stores are those where 90% (60/67) of the listed foods were found. In total, 128 stores were surveyed in Manitoba including 70 stores in Winnipeg, 4 stores in Brandon, 9 stores in Northern Manitoba and 45 stores in Rural Manitoba. Table A shows the number of stores surveyed by community area and shows number of full service and smaller (other) stores.

Table A:

Region	# Stores surveyed	# Full service stores	# Other
Winnipeg including:	70	35	35
-Assiniboine South	3	2	1
-Downtown	9	2	7
-Fort Garry	5	3	2
-Inkster	4	2	2
-Point Douglas	10	1	9
-River East	3	3	0
-River Heights	8	6	2
-Seven Oaks	6	3	3
-St. Boniface	4	2	2
-St. James	4	3	1
-St. Vital	10	6	4
-Transcona	4	2	2
Brandon	4	3	1
Rural including:	45	39	6
-Assiniboine	9	6	3
-Central	6	6	0
-Interlake	9	9	0
-North Eastman	7	6	1
-Parkland	9	7	2
-South Eastman	5	5	0
Northern including:	9	5	4
-Burntwood	6	2	4
-Nor-Man	2	2	0
-Churchill	1	1	0
Total	128	82	46

b. Data Collection

Winnipeg Sample

Stores were identified by the Author Team with the goal of achieving a sample within each community area that represents places where people typically buy food. As indicated by the NFB Protocol, store selection should represent stores in which individuals in a particular area typically shop.⁷ Therefore, to obtain this information in Winnipeg, the Family First Home Visitors (FFHV)* were consulted. Generally, it is recommended by the NFB Protocol that stores which lack the capacity of offering a full range of food items, such as convenience stores, not be included in data collection.⁷ However, the information received from the Family First Home Visitors indicates that less traditional outlets, such as convenience stores, are a primary source of food purchases for many individuals in lower income areas, it was deemed necessary to investigate the affordability and availability of foods from these locations so that a more realistic and inclusive selection of stores could be made. Examples of less conventional food stores used included pharmacies, dollar stores, department stores, and corner stores.

A final consideration for the project was to assess food availability by looking at food basket items that were not found and therefore unavailable across Winnipeg and Manitoba stores. Food availability is an important factor in determining food security for individuals and households and is a predominant issue for those who have limited access or transportation to larger grocery stores that tend to offer a greater variety of foods at more

**FFHV are health service providers who work with families and others to improve the health and well-being of those participating in the Families First program. In this role the FFHV works to expand the parent's capacity to manage stress and use a variety of community resources that will strengthen the individual parent as well as the family.*

competitive prices as compared to smaller convenience stores. In this report, a food is considered available if it is found in the store being surveyed. A statistician was hired to assist with analysis and interpretation of the data on food availability for the different regions.

i. Winnipeg Costing Exercise

Recruitment of Data Collectors

The collection of food costing data in the city of Winnipeg was completed through the utilization of data collectors, including members of the community and University students. A handbill was prepared describing the volunteer opportunity and commitment requirements. The handbill was sent by email to the University of Manitoba, Faculty of Human Ecology and distributed to students through email by the student advisor. In addition to this, posters were displayed at Nine Circles and Klinik in an attempt to recruit patrons of the health centers. Interested individuals were asked to contact Colleen Rand by email. Volunteers were informed that in order to participate in the project they were required to attend an orientation session to provide training on the data collection procedure. A total of 37 individuals inquired about participation and a final total of 33 signed up for orientation. Prospective surveyors registered as Nine Circles volunteers.

Orientation of Data Collectors

The purpose of the orientation sessions were to provide standardized food costing training to all data collectors in order to provide clear instruction and minimize data collection errors. Four orientation sessions were held 5 days prior to the start of data collection and were approximately an hour and half in length. Afternoon and evening sessions were offered for the convenience of the data collectors. Groups consisted of 4-13 data collectors and 2-3 working group members. All but one data collector attended an orientation session.

Prior to the start of orientation sample food costings were completed by members of the working group to help improve the facilitators' understanding of the costing process and provide insight into any challenges

that may arise during data collection. At the orientation this information was shared with the data collectors as part of the detailed instructions provided regarding guidelines for collecting food prices. Three documents were provided to data collectors including the NFB costing survey(s), costing instructions, and Letter(s) to the Manager. Contact information was provided to the data collectors and they were encouraged to seek assistance from project leads as required during the costing process.

Store Collection and Data Collection

A list of all stores where food is sold was developed by community area for data collectors to choose those they were willing to survey. The list of 113 stores included large and medium grocery stores, convenience and non-conventional grocery stores. Data collectors selected the store(s) they were willing to survey. Author team members surveyed stores from the stores remaining on the list once the data collectors made their choices. The Author Team members made their choices based on a need to have all community areas surveyed. No attempt was made to influence the choices of the data collectors in terms of the location, size or number of stores chosen.

Data collectors were instructed to gather data independently or with a partner if they chose. Upon entering the store, data collectors were asked to speak to the manager to obtain permission and provide the 'Letter to the Manager', explaining the details of the project. Data collection commenced May 24th, 2011, and continued until May 30th, 2011, by which time data collectors were asked to return all data collection documents. Data collectors were instructed to return documents by either fax or dropping them off at Nine Circles, Clinic, or the Regional Distribution Facility. In addition to the stores surveyed by data collectors, working group members

also completed surveys in order to fill any gaps remaining after data collectors had selected stores.

ii. Costing Exercise outside of Winnipeg (Brandon, Rural and Northern Manitoba)

Recruitment of Data Collectors

The collection of rural and northern food costing data was completed by health professionals including Professional Home Economists, dietitians and public health nurses. These individuals were familiar with and/or had previous experience in completing food costing surveys and followed the guidelines provided by the NFB protocol. The data collectors were recruited by email sent to the members of the Manitoba Association of Home Economists and the Heart and Stroke Foundation's network. Interested individuals contacted Amanda Nash and Christine Houde who explained the role and clarified expectations. A total of 42 data collectors were recruited to cover Brandon, Rural and Northern Manitoba.

Orientation of Data Collectors

Because all data collectors outside of Winnipeg worked as health professionals and were familiar with the food costing exercise, no formal orientation was provided. All data collectors had a phone conversation with Amanda Nash or Christine Houde to ensure they understood the food costing exercise. Four documents were provided to the data collectors including a copy of the NFB document, NFB costing surveys, costing instructions, and letter(s) to the manager. Contact information was provided and the Data Collectors were encouraged to seek assistance from the project leads as required during the costing process.

Rural Data Collectors performed the costing between May 16th and May 30th 2011. Upon completion, surveys were returned to the Heart and Stroke Foundation either by fax or mail. Coordination of this portion of the costing process was overseen by Heart and Stroke Foundation who agreed to share

the raw data in order to compile all urban and rural data for a provincial report.

Store Selection and Data Collection

Outside of Winnipeg, stores that were surveyed were identified by our data collectors. They were asked to choose stores where they believed most community members in the area did their shopping. Data collection outside of Winnipeg was based on the availability of our recruited professionals to do the survey. There were no attempts made to influence the choice of store made by the data collectors in terms of location, size or number of stores chosen. All stores chosen were recorded by their postal code; names and specific addresses were kept confidential.

Upon entering the store, data collectors were asked to speak to the manager to obtain permission to conduct the food costing and provide the letter to the manager explaining the details of the project. Data collection commenced May 16th, 2011 and continued until May 30th, 2011. Data collectors were asked to return all data collection documents by either fax, email or mail to the Heart and Stroke Foundation immediately after the food costing was completed. Upon review for accuracy, all surveys submitted were accepted.

c. Data

The data base contains the cost of 67 different foods from 128 retail outlets (approx. 8,000 entries). We have been cautious to ensure that the data presented is accurate. One individual with the most detailed knowledge of the software program entered all of the data. We also solicited advice from a statistics consultant about how to report the cost of healthy eating in areas where data is missing because some items in the 'NFB' were not available.

Data was entered into an Excel spreadsheet which calculated the average costs for each of the 67 food items in each region/area. With consultation from the statistician, outlier costs or costs which were greater than or less than 100% of the average cost of an individual food item were removed from the spreadsheet. In total, 26 individual food costs were removed from the initial spreadsheet.

The remaining average food costs were then entered into the "cost averaging spreadsheet" that accompanies the NFB Protocol which calculated the weekly food costs for 22 different age and sex groups. This spreadsheet added a 5% cost to the average weekly food costs to cover miscellaneous food items such as spices, condiments, baking supplies, etc., and multiplied weekly food costs by an adjustment factor (AF) to account for the economies and diseconomies of scale that are associated with family size.

Findings



6. Findings

Although several variations in household size can be calculated from the database, the following 3 family sizes were chosen to reflect common family sizes:

- 1) **Family of Four**[†] (a man and woman aged 31-50; a boy, age 14-18; and a girl, age 4-8)
- 2) **Single Mother two children**^{††} (woman age 31-50; boy, age 14-18; and girl, age 4-8)
- 3) **Single Male** (man age 31-50)^{†††}

a. Food Cost

Winnipeg Results

Table B shows the average weekly and monthly food costs for the three reference family sizes for each of the 12 Community Areas in Winnipeg.

Average food costs for household 2) includes an adjustment factor (AF) of 1.05 and household 3) includes an AF of 1.2. These AFs account for the diseconomy of scale observed for households with fewer than 4 individuals.

Tables B and C summarize this data.

Table B: Average Cost of NFB: Winnipeg Community Areas

Community Area	Average Food Costs according to Reference Households					
	1) Family of Four [†]		2) Single Mother, two Children ^{††}		3) Single Male ^{†††}	
	Weekly Food Cost	Monthly Food Cost	Weekly Food Cost	Monthly Food Cost	Weekly Food Cost	Monthly Food Cost
St. James Assiniboia	\$179.75	\$778.90	\$135.76	\$588.28	\$60.54	\$262.36
Assiniboine South	\$181.62	\$787.02	\$137.29	\$594.91	\$61.05	\$264.53
St. Vital	\$182.47	\$790.70	\$137.81	\$597.16	\$61.47	\$266.37
River Heights	\$183.92	\$797.01	\$139.09	\$602.71	\$61.75	\$267.60
St. Boniface*	\$184.25	\$798.41	\$139.26	\$603.46	\$61.49	\$268.42
Inkster	\$186.56	\$808.43	\$141.12	\$611.52	\$62.59	\$271.24
Transcona	\$186.80	\$809.46	\$141.25	\$612.06	\$62.74	\$271.86
Point Douglas	\$188.35	\$816.20	\$142.44	\$617.24	\$63.24	\$274.02
Seven Oaks	\$188.45	\$816.62	\$142.49	\$617.44	\$63.30	\$274.30
Downtown	\$189.61	\$821.63	\$143.25	\$620.75	\$63.81	\$276.53
Fort Garry	\$190.77	\$826.66	\$144.12	\$624.51	\$64.21	\$278.26
River East	\$198.65	\$860.80	\$149.97	\$649.85	\$66.99	\$290.27
City of Winnipeg	\$186.67	\$808.90	\$141.12	\$611.50	\$62.73	\$271.82

* extrapolated information from full service grocery chains in St. Vital

Manitoba Results

Table C provides the average weekly and monthly cost of food for the same 3 reference families in each of the health regions in Manitoba.

Table C: Average Cost of NFB: Manitoba Health Regions

	Average Food Costs According to Reference Households					
	1) Family of Four [†]		2) Single Mother, two Children ^{††}		3) Single Male ^{†††}	
Health Region	Weekly Food Cost	Monthly Food Cost	Weekly Food Cost	Monthly Food Cost	Weekly Food Cost	Monthly Food Cost
Burntwood	\$273.44	\$1184.91	\$207.47	\$899.06	\$91.01	\$394.39
Churchill**	-	-	-	-	-	-
Assiniboine	\$215.51	\$933.89	\$162.97	\$706.21	\$72.36	\$313.57
North Eastman	\$203.13	\$880.24	\$153.65	\$665.80	\$68.16	\$295.38
Parkland	\$200.35	\$868.20	\$151.39	\$656.00	\$67.41	\$292.12
Central	\$195.21	\$845.90	\$147.72	\$640.10	\$65.43	\$283.53
Interlake	\$195.00	\$844.99	\$147.41	\$638.78	\$65.53	\$283.96
South Eastman	\$194.29	\$841.93	\$147.08	\$637.36	\$65.06	\$281.91
Nor-man	\$188.04	\$841.86	\$141.97	\$651.21	\$63.40	\$274.74
Brandon	\$192.15	\$832.66	\$145.20	\$629.19	\$64.64	\$280.12

** A food basket cost per family size shown for Churchill could not be calculated as a complete food basket was not available for this health region.

b. Food Availability

Food availability was summarized for the Winnipeg and Manitoba health regions. A list of food frequencies was generated to enumerate how often a food item was missing from Manitoba stores. This number was divided into the total possible entries for that item to determine with the percent unavailability per food item.

A benchmark of greater than 20% was chosen to report on the foods which were least available as shown in Table D.

Table D: Percentage of Stores where Food Item is Unavailable

(Note: Only those numbers greater than 20% are shown)

Individual Food Items within a Food Category	% of Stores where Food Item is Unavailable
Meats	
Inside round steak	36.0%
Inside round roast	35.2%
Cooked ham	23.2%
Pork chops	22.4%
Chicken legs	21.6%
Fresh Vegetables and Fruits	
Sweet potato	36.8%
Rutabagas	35.2%
Cantaloupe	30.5%
Pears	30.4%
Red/Green grapes	26.4%
Romaine lettuce	25.6%
Cabbage	23.2%
Broccoli	21.6%
Cucumber	20.0%
Breads	
Whole wheat pita bread	46.4%
Frozen Foods	
Frozen yellow and green beans	31.2%
Frozen fish fillets (haddock, sole, Pollock, or halibut)	30.4%
Frozen strawberries	24.0%
Frozen peas	20.0%
Packaged Products	
Dry lentils	36.8%
Peanuts with the shells	28.0%
Whole wheat flour	24.0%

Availability was further examined by Food Category. Figures 1, 2 and 3 describe unavailability of foods by Food Category for Manitoba Health Regions.

Figure 1: Food Unavailable by Category for Winnipeg Health Region (shown as a percent)

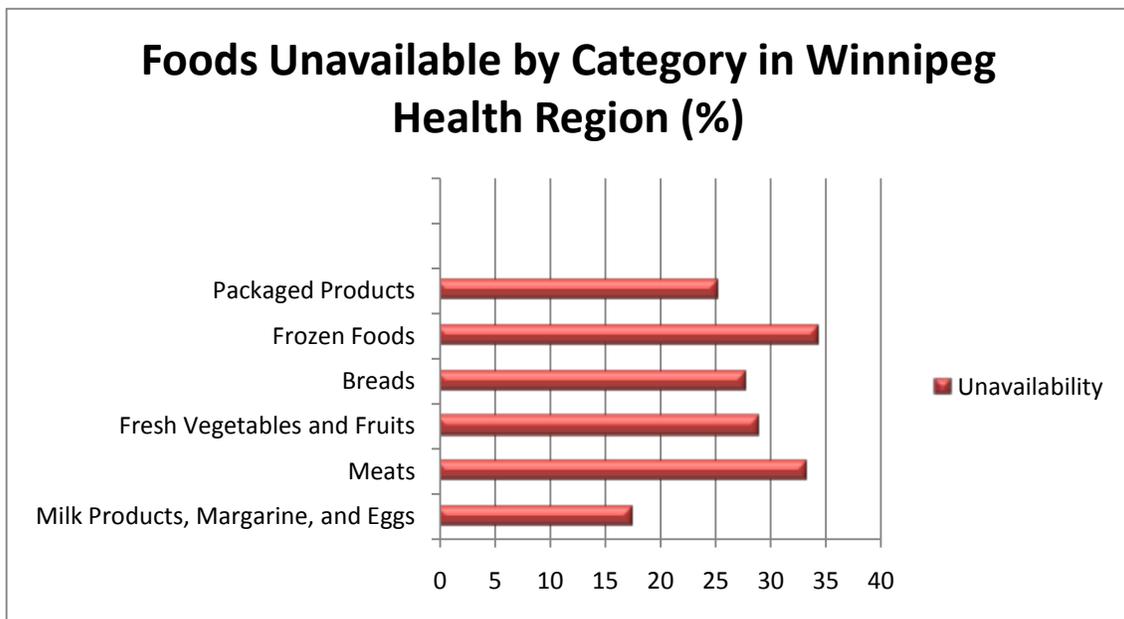


Figure 2: Food Unavailable by Category for South Eastman, North Eastman, Assiniboine, Interlake, Parkland, Central and Brandon Health Regions.
(shown as a percent)

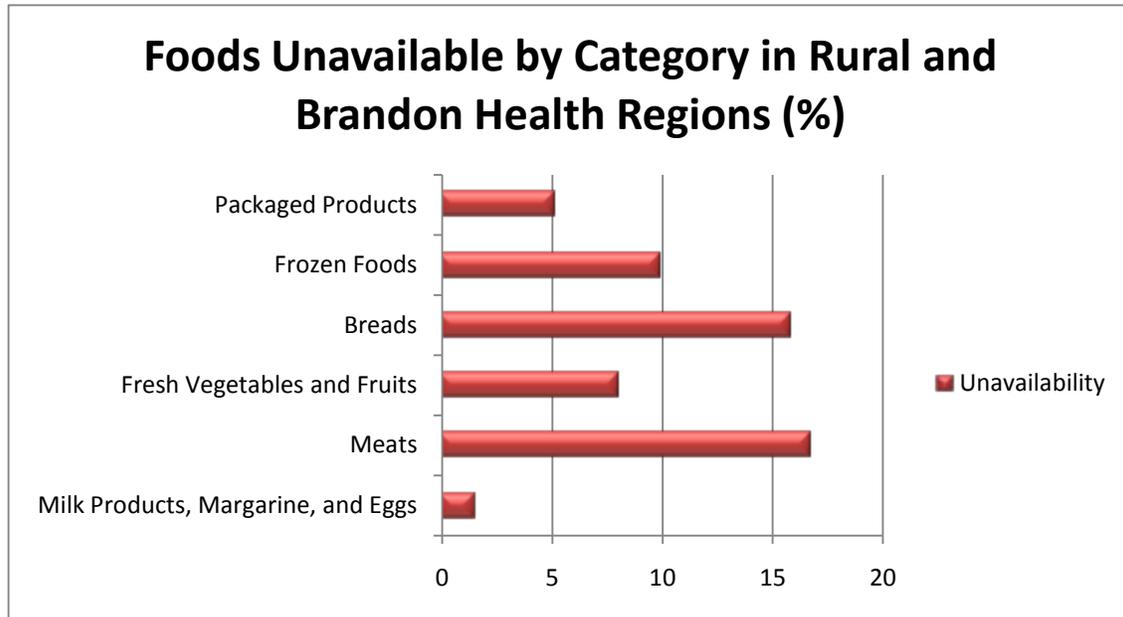
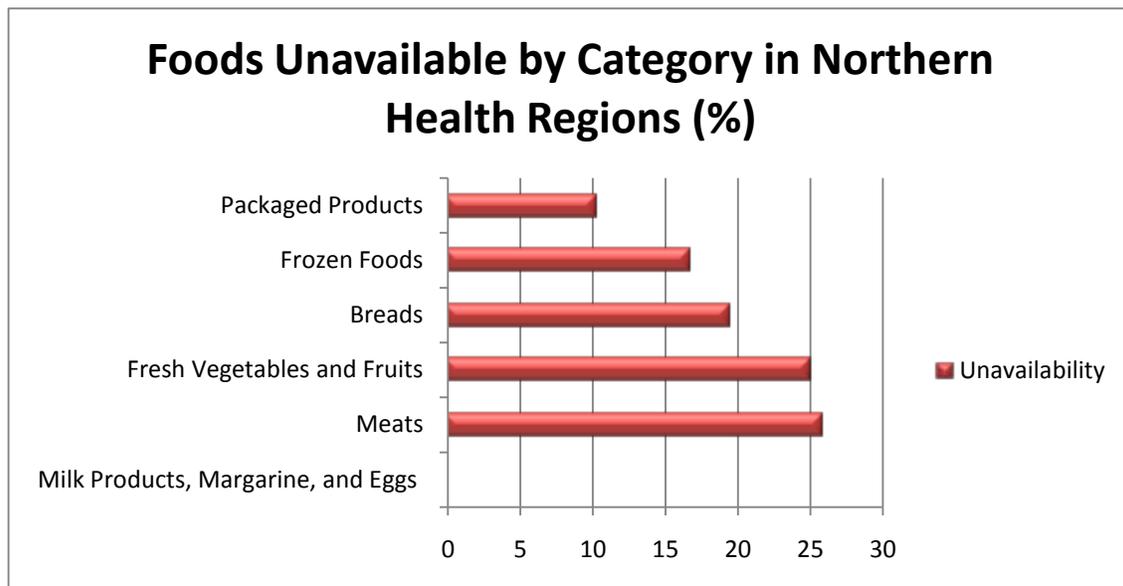


Figure 3: Food Unavailable by Category for NorMan, Burntwood and Churchill Health Regions (shown as a percent)



Food availability was summarized for the Winnipeg and Manitoba Health Regions by running frequency tests for missing and available items.

Table E shows the percent of food items missing in stores surveyed within each health region and community area.

Table E:

Region	# of Small Stores Surveyed	# of Large Stores Surveyed	Missing Items (%)
Winnipeg	35	35	25.2
-Assiniboine South	1	2	28.4
-Downtown	7	2	31.8
-Fort Garry	2	3	21.5
-Inkster	2	2	13.8
-Point Douglas	9	1	41.2
-River East	0	3	0.5
-River Heights	2	6	16.0
-Seven Oaks	3	3	22.9
-St. Boniface	2	2	39.6
-St. James	1	3	7.5
-St. Vital	4	6	26.3
-Transcona	2	2	32.1
Brandon	1	3	8.2
Rural	6	39	7.3
-Assiniboine	3	6	9.0
-Central	0	6	3.0
-Interlake	0	9	3.0
-North Eastman	1	6	8.1
-Parkland	2	7	14.4
-South Eastman	0	5	6.3
Northern	4	5	12.3
-Burntwood	4	2	29.4
-Nor-Man	0	2	1.5
-Churchill	0	1	6.0
Total	46	82	

Table E shows the ability to obtain a complete NFB by community area in Winnipeg and by Health Region in Manitoba. The ability to obtain a NFB is related to the size and type of stores surveyed within the community. The Winnipeg example illustrates how the inclusion of a large number of smaller stores (9) within an area such as Point Douglas can increase food purchasing opportunities for the residents of the area but decrease the availability of NFB foods due to the limited selection in the smaller stores.

Limitations



7. Limitations

Every attempt was made to acquire and present the most current and comprehensive data throughout this project. However, limitations exist within the data that must be disclosed:

Limitations related to the sample:

Sample representation and number of stores surveyed –the guidance document suggests one store per 10 000 people as appropriate sample representation and although this was used as a broad goal within all regions, this was not possible in some regions and community areas. Outside of Winnipeg, specific numbers and locations of stores were chosen based on location of data collectors and their perception of the stores that people in the area commonly use. As such, there is a selection bias based on the stores chosen by the data collectors. All of the data that data collectors submitted was accepted. In Winnipeg, similar selection bias exists in that data collectors were invited to choose the stores that they were willing to survey from a comprehensive list. This self-selection was deemed a more useful way to have data collectors follow through on a very large task. We recognize that the data does not represent a perfect sample, however, it is representative of stores where people commonly shop and it is generally comprehensive.

St Boniface (Winnipeg) – due to data collector store selection, there were no large stores surveyed in the St Boniface area, however large stores from St Vital were considered to be representative of this area as

well. Therefore the data from two large stores in St. Vital were added to the St. Boniface data.

Number and size of stores in any region or area: The number and size of stores within a region or community area differed greatly. Within some regions, remote communities with a single store were surveyed in addition to larger stores in bigger centres. In other cases, no stores in remote areas were chosen to survey such as in the Nor-Man region. The cost of a NFB in the Nor-Man region as presented in this report does not include any surveys from remote or isolated communities outside of Flin Flon or The Pas.

Limitations in the ability to report findings:

Churchill /Island Lakes area – not all of the 67 foods listed in the NFB were found in Churchill (within Churchill RHA) and 2 stores in the Island Lakes area (within Burntwood RHA). Due to the incompleteness of the data, average food costs for reference households could not be obtained for these locations. However this data was still included when analyzing food unavailability. It should also be noted that the cost of the foods obtained from the Island Lakes area was still included in the Burntwood region totals.

Extrapolation influencing price: When a food was found at the store but not in the suggested purchase unit size, the cost was adjusted up to the purchase unit size as per guidance document. This was more common for pricing at smaller convenience stores. In some instances, this extrapolation caused foods to cost more than 100% more than equivalent amount of the food sold at the purchase unit size. These food items were removed from the data base.

Children less than 2 years of age: The NFB is not designed to determine food costs for infants less than two years of age because *EWCFG* does not contain specific nutrition recommendations for this age group. There is no ability to generate information about the cost to feed children less than 2 years of age from this database.

Limitations related to ‘non-food’ costs related to healthy eating:

Personal items – The NFB does not include personal care items such as shampoo or soap, although these items are often included in a family’s grocery bill. The additional 5% added to cover miscellaneous costs only includes the costs of incidental food items such as spices, condiments and some baking supplies and not other non-food grocery items. It must be appreciated that some non-food grocery supplies such as cleaning supplies are necessary for safe food handling and preparation.

Barriers to purchasing or preparing food – Transportation costs such as gas and bus fare are not included in the calculations of a NFB. In areas where accessibility to nutritious food is low, this becomes a significant factor in the cost of procuring food. Other barriers such as lack of food knowledge, cooking skills, kitchen equipment, or food storage space were not factored into this report. These factors contribute to the ability of an individual or family to have a healthy diet even if sufficient money is available to purchase healthy food.

Limitations related to subsidy programs:

Confounders, since 1960 – A northern food subsidy program known as the Food Mail Program (FMP) provided subsidizations in the form of flat rate shipping for food and personal care items sent to all northern communities which rely solely on air access.⁸ In April 2011, a new northern food subsidy program, Nutrition North Canada (NNC), was implemented to replace the FMP.⁸ The purpose of the new NNC program was to reduce the costs associated with the most nutritious perishable foods including fruits, vegetables, bread, meats, milk, and eggs.⁸ As the level of subsidy became dependent on the nutritional value of the food items *nutritious foods* became more affordable while *non-nutritious items*, no longer eligible for a shipping rebate, increased in price.⁸

Since data collection for the current food costing initiative in Manitoba took place in May 2011, the changes in food prices resulting from the NNC program were reflected in the data. These prices however, are no longer available as the NNC program was short lived and the FMP has been reinstated. It is therefore an important factor to consider when reviewing data collected in areas affected by the NNC program for that brief period, such as the Island Lake area, as the food prices are likely not representative of the costs which exist in these areas currently.

Discussion



8. Discussion

This is the most comprehensive survey of its kind in recent Manitoba history. The methodology in the Ontario Guidance Document was strictly adhered to with one exception. The methodology intentionally deviated from the guidance document, by using smaller stores such as convenience stores in order to provide a realistic sample of the places where people shop for food in Manitoba. We are confident that, within the stated limitations, we have compiled a sample of food stores that realistically represents the stores where Manitobans commonly buy food. The volume of data available to report on increases our certainty that we have reported the most accurate information possible within the resources available to us.

A comparison in the cost of food over time from earlier costing exercises to this current survey can only be made with caution. The methodology of earlier surveys, number and types of stores and list of foods surveyed do not allow for a detailed comparison.

The Author Team consists of nutrition professionals. It is our opinion and experience that food security is not built on purchase power alone. The other important factors to consider and support are; transportation, budgeting skills, literacy and numeracy, access to storage and cooking equipment, cooking skills and self-efficacy. One of the university student data collectors provided feedback that it was 'mentally exhausting' to find the lowest unit price for each of the foods listed (Appendix 1. attached). This is telling information about the energy, skills and determination needed to eat healthy on a low-income.

The 67 foods in this NFB do not include **any** commonly eaten convenience foods such as canned soup, frozen entrees or pre-prepared foods. In order to effectively use the foods listed, a fairly high degree of cooking skill and commitment to daily food preparation must be maintained. In fact, we would contend that the some of the foods listed are not commonly consumed (i.e. rutabaga). One aspect of food security is food that is “personally acceptable”. With this in mind, the actual cost of foods that are commonly eaten is higher than what is reported. One other aspect related to personally acceptable food is that of food quality. While the data costers may have found the food in smaller convenience stores, the quality at times was described as poor. This was most often the case for produce and perishable foods. Data costers commented that produce appeared ‘old’ and unappealing in some of the stores surveyed. The concept of food quality is not addressed in this report but is of consideration in food purchasing decisions.

One of the most striking observations to be made in this costing report is the low price variability within Winnipeg and the non-northern regions of Manitoba. We would suggest that the cost of a NFB is similar in many areas of the province and that people have access to competitively priced food as long as they have the transportation to a full service grocery store. The cost of transportation has not been included in this report but would be considerable for those in remote areas of Manitoba.

This document has been written to report on the results of factual information about the cost and availability of basic foods in Manitoba. The Author Team believes that the significance of the information that is presented for each health region and community area is best left to those who live, work and learn in the community and therefore have the best

regional understanding of the relationship between the availability and affordability of food and other determinants of health.

Recommendations



9. Recommendations

1. The Author Team recommends that this report be used locally so that the significance of the information that is presented for each health region and community area is left to those who live, work and learn in the community and therefore have the best regional understanding of the relationship between the availability and affordability of food and other determinants of health.
2. In addition to adequate funds for a healthy diet, any effort to support the following would increase the ability to consume an adequate diet based on the NFB:
 - Access to full service grocery stores
 - Budgeting skills
 - Literacy and numeracy
 - Access to storage and cooking equipment
 - Cooking skills
 - Self-efficacy
3. Future food costing reports should include a dedicated budget and established leadership as the true cost of the report is considerably higher than the amount of funding that was available.

References



10. References

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6. Rideout, C. & Peitsch, L. (2007). Preliminary Summary of Food Costing Project, 2007. (unpublished)
7. Ministry of Health Promotion Ontario (2010). Nutritious Food Basket Guidance Document. Ontario: Queen's Printer.
8. Transition from Food Mail to Nutrition North Canada-Summary, February 2011.

List of documents referenced in the report but not included (available upon request from the HSF in Manitoba):

1. Family First Home Visitor survey template
2. Volunteer Recruitment handbill
3. Nine Circles volunteer application form
4. Orientation information and instruction
5. Letter(s) to Store Manager (adapted from Guidance document)

Appendices



11. Appendices

Appendix 1. Summary of Data Collector Evaluations

The following is a summary of the evaluations completed by data collectors that participated in the 2011 Winnipeg Food Costing Project. A total of 32 data collectors participated in food costing. Surveys to evaluate the orientation and food costing process were sent out to data collectors June 1st, 2011. A total of 19 data collectors replied to the survey (60% response). The survey consisted of 10 open and closed ended questions, was generated using SurveyMonkey, and required less than 5 minutes to complete.

Stores

The average number of stores completed by each data collector was 2-3 and an average number of hours spent costing was found to be approximately 4 hrs/data collector. The data collectors estimated that each store required about 2 hours to survey. Of those who completed the evaluation about 25% of them completed the costing exercise with a partner.

Orientation

All individuals that completed the survey indicated they felt the orientation was effective in providing them with sufficient information and training on how to conduct food costing. When asked for suggests on improvements that could be made to the orientation the majority of respondents indicated they had none. Some commented that the length of time of the orientation was very appropriate and that instructions were very clear. Comments for improvements included demonstrating food costing for produce available in a variety of formats (ex. loose and bag(s)). One comment stated that verbal and written explanations for this section of the costing were very good but that a visual demonstration would help explain the process more clearly. In

addition to this, the suggestion was made, that if possible, to conduct a portion of the orientation as a costing tour within the grocery store. This is also suggested by the Nutritious Food Basket Protocol.

Data Collection

All but one data collector indicated they felt they had adequate support from the project leaders. Several individuals commented that they appreciated the immediate response of project leaders to phone calls/emails when needing clarification.

A great deal of feedback was received regarding the challenges experienced during the food costing process. Several individuals commented that they found the produce section most challenging to complete as it was time consuming and difficult to find the correct product indicated on the list. Other difficulties reported with produce costing included the various ways in which produce could be costed (ex. price/each, price/kg, or pricing various formats such as bagged and loose). Inconveniences observed for this section of the costing included having to weigh multiples of some products to obtain an average weight, and products being spread across large areas making it difficult to find the lowest priced version. One individual remarked that they found the costing process to be mentally exhausting at some points as concentrating on finding specific sizes and lowest prices for each item time consuming.

Other challenges reported included difficulties in effectively communicating to the owner or store manager their intentions. In some cases this included a language barrier which made conveying the message more difficult.

Many smaller grocery stores and convenience stores did not have scales to measure the weight of produce which was a challenge reported by some of

the data collectors completing costing in these stores. Other observations made were that many stores that catered specifically to an ethnic population were more difficult to cost as many of the items on the NFB list were not found at these stores. It was indicated that similar alternatives were seen but data collectors were unsure about whether to cost these or not. Finally, lack of familiarity with certain items such as arrowroot or social tea cookies was found to make costing challenging.

Personal Experience

Data collectors were asked whether they felt this experience had increased their understanding of food insecurity and if so, in what way. Several data collectors felt the experience had made them become more aware of what the actual cost of foods are and how much healthy eating can cost in comparison to choosing unhealthy options that are high in sugar, fat, and salt. One individual commented on gaining an understanding of why individuals may choose unhealthy options, even though they may know they are not the best for them, due their affordability and accessibility.

Others commented that they came to recognize the challenges lower income individuals struggle with in obtaining accessibility to good quality fresh produce as they were harder to come by in convenience stores. A few also commented on how as a developed nation they had not expected food insecurity to be such a major issue for our population.

One individual also commented that this process had made them consider all the factors associated with attaining healthy eating and not just the cost alone. They recognized the importance of having the skills and appliances necessary to prepare foods, budgeting and planning regarding food, and transportation costs associated with purchasing food.

Finally, data collectors were asked if they would recommend this opportunity to others seeking volunteer work and all respondents indicated they would.

Appendix 2. Regional Health Authorities of Manitoba

