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SUMMARY

Supporting and promoting healthy eating within the food retail environment shows promise as a means to positively influence consumers' consumption of nutritious foods. Social and physical environments influence food choice. The efforts of many sectors, including food retail can help to create supportive environments to improve the nutritional health of Canadians. This report outlines trends influencing the food retail environment and consumer purchasing behaviour. It summarizes promising interventions from the literature and profiles experiences from Canadian programs to help us understand how the food retail environment could support healthy eating. The report also provides suggestions for program development, implementation, and evaluation.

TRENDS IN FOOD RETAILING

Globalization of the food industry has led to an increasingly concentrated and consolidated food retail sector. Global supply chains have resulted in sweeping changes to food retail formats and food choice. Traditional grocery stores have evolved into increasingly large supercenters that provide one-stop shopping, including health services. At the same time, many consumers are seeking out smaller, alternative food outlets, such as farmers' markets, in an effort to make a connection with local food production.

Consumer demands for convenient, simple, easy-to-prepare meals has spurred food retailers to offer more ready-to-eat or partially prepared foods such as deli foods, salad bars, pre-made sauces, and pre-cut and pre-washed vegetables.

Access to perishable foods is limited and transportation and storage are expensive in remote and northern communities. These communities typically have only one or two stores stocking a limited range of foods. The variety and quality of fresh produce can be poor.

HEALTHY EATING INTERVENTIONS IN GROCERY STORES

The literature review identified food retail initiatives primarily in the United States, but also included Canadian and international initiatives. The literature indicates that the most common evaluated interventions are:

- point of purchase information programs, which can include displays of print material, electronic media, grocery store tours, taste tests, and cooking demonstrations, sometimes with a Registered Dietitian;
- price reductions and coupons, which can provide an economic incentive for eating nutritious foods; and
- shelf space strategies, which can provide better access to nutritious foods and increase consumers' exposure to them.

Twelve promising or successful Canadian initiatives aimed at promoting healthy eating through the retail sector are showcased in this report. These profiles highlight program details, insights, lessons learned, and advice to inform future programs and policy directions.

FEATURES OF EFFECTIVE PROGRAMS

Programs that implement a single intervention in a single setting are the easiest and least expensive to implement but often do not report positive behaviour changes. Price reductions of promoted foods only appear to increase sales during the price reduction period. Redesigning stores to increase shelf space and location of nutritious foods appears to show consistent promising results in increasing sales of these foods.

Evaluation components for most programs tended to be weak in their design. Results are often positive for changing awareness or short-term increases in purchasing of promoted foods, but long-term behaviour change results are lacking. The evaluation results of published interventions show moderate effectiveness. There is a lack of clear evidence distinguishing the characteristics of successful intervention strategies.

Based on the experience of our key informants and available evidence in the literature, the following could aid program development, implementation, and evaluation:

- Initiate and design programs that meet community needs and garner wide-spread stakeholder support. Build alliances and collaborate with partners. Stakeholders and partners often include:
 - federal/provincial/territorial/regional government staff from health and agriculture;
 - community leaders and organizations;
 - national or provincial non-governmental organizations;
 - schools;
 - farmers;
 - retailers from both traditional and alternate food sectors; and
 - university researchers.
- Assess community, school, and food retail strengths, resources, and needs when forming program goals and activities.
- Balance the wants and needs of communities and stakeholders with evidence-supported, behaviour change theories and interventions in designing the program.
- Build flexibility into program development to meet the unique needs of communities and stakeholders.
- Use clear, simple, focused, and targeted messages that can be delivered using multiple interventions. The multiple intervention strategy allows stakeholders and their partners to tailor programs based on their specific business type or unique community needs.
- Use simple, easily implemented, and low cost programs to increase stakeholder willingness to implement and promote sustainability.

- Partner with research experts to design and implement the evaluation of programs and analyze results.
- Build communication plans, training, and on-going stakeholder and staff support and education into program strategy.
- Use ready-made materials and resources to simplify program development and implementation and reduce associated costs.



1. PURPOSE OF THIS PAPER

There is global concern about rising rates of chronic diseases. Eating well, being physically active, and maintaining a healthy body weight can help reduce the risk of developing some chronic diseases. Social and physical environments influence food choice and the efforts of many sectors, including food retail can help create supportive environments for healthy eating.⁽¹⁾ The purpose of this paper is to describe what can be done to support healthy eating in the food retail setting, including suggestions for program development, implementation, and evaluation.

It is increasingly recognized that the availability, accessibility, and promotion of nutritious food in food retail environments may help to reduce the risk of obesity^(2, 3) as many food purchasing decisions take place in-store.⁽⁴⁻⁸⁾ This report looks at in-store interventions in Canada and elsewhere that seek to positively influence the purchasing of nutritious foods.

Shifts in the food retailing industry, consumer attitudes, and nutrition knowledge influence consumer purchasing practices and consumption trends. This report describes these influences and reviews the literature on interventions in the food retail environment to support healthy eating. Front-of-pack labelling programs, private labels, and restaurant initiatives were beyond the scope of this report.





2. AN OVERVIEW OF THE FOOD RETAILING INDUSTRY

In this report, we use the word grocer broadly. Since the mid-1900s, traditional small chain grocery stores have merged into regional, national, and international chains in order to achieve economies of scale in acquiring and marketing food.^(9, 10) Meanwhile, non-traditional ways of merchandizing food have arisen, such as wholesale clubs, drug stores, and convenience stores. Here we describe the most common ways of selling groceries. (See Appendix II for the definitions of the various food retailing outlets.)

TYPES OF TRADITIONAL FOOD RETAIL OUTLETS

Globalization of the food industry has led to concentration and consolidation of food retail and sweeping changes to retail food formats and food choice. Companies have vertically integrated—that is, expanded their business into areas that are at different points on the same production path, by taking ownership of their suppliers and/or distributors.^(10, 11) Companies are building increasingly larger stores, offering food, as well as other products and services, to appeal to consumers who want one stop shopping. They usually offer lower prices and the greatest variety of products.^(12, 13)

To be competitive, many independent grocery retailers are joining banner groups or buying groups and making affiliations with a wholesaler in order to take advantage of economies of scale. Affiliated independents account for most of the sales by independent grocers.^(14, 15)

Smaller, niche supermarkets offering specialized or unique products or food services, including ethnically diverse foods are strengthening their market share.⁽⁹⁾

TYPES OF NON-TRADITIONAL FOOD RETAILING

Non-traditional food retail outlets include:

Specialty stores: Specialty food stores (such as delicatessens and bakeries) now complement larger supermarkets in food-anchored shopping centres. This gives consumers an alternative to superstore shopping.⁽⁹⁾

Convenience stores and convenience store/gas station hybrids: These stores sell primarily convenience long-shelf-life snacks.^(16–18) Historically, they have stocked little if any produce and usually have higher prices.^(19–21) Convenience stores are widely accessed.⁽¹³⁾

General merchandising: New entrants to the retail food market are general merchandising stores, drug stores, dollar-type stores, and warehouse clubs. The amount of floor space dedicated to food retailing is highly variable. Mass merchandisers and warehouse clubs are able to keep their prices lower than traditional retailers due to the no frills format of the stores and because they purchase larger orders directly from manufacturers. Also, customers may be required to pay annual membership fees.⁽¹³⁾

Co-operative stores: These are usually owned by the employees or the customers and operated by a local board of directors. For this reason, they are often considered more responsive to customer demands. They can be operated as for-profit or as a social enterprise.^(22–24)

Local food markets: Locally grown or raised foods are commonly sold in farmers' markets, at farm gates, and through community-supported agriculture (CSA). In a CSA, the consumer buys local food directly from a farmer. The consumer pays the farmer at the start of a season and, in return, they receive boxes of produce (and sometimes meat or eggs) over the course of a harvest season. Farmers' markets typically operate once or twice a week during the local growing season. Consumers who buy from these alternate local markets often want local or organic food and a sense of connection with the food producer.^(16, 25, 26)

INDUSTRY TRENDS

Globalization and concentration: Food retail has become more homogeneous and concentrated since the early 1990s in an effort to remain competitive in an increasingly globalized and integrated North American market.^(12, 27) While the number of food retail stores in Canada declined between 1990 and 2004, the average sales per store more than doubled.⁽¹⁰⁾ In 2010, three of the largest Canadian food retailers accounted for approximately 90% of national grocery sales.⁽²⁸⁾ The globalization of the food sector is expected to continue, leading to greater integration of food systems and continued consolidation in food retail. Increased specialization associated with global trade is expected to keep food prices low, but increase the complexity of international and national food pathways.⁽¹⁴⁾

The local food movement: Another trend is the significant growth of direct sales of local foods to consumers through community-supported agriculture, farm-stands, farmers' markets, and other alternative outlets.⁽²⁹⁾ The increasing complexity of global food pathways has led to efforts to design and implement food traceability initiatives.⁽²⁸⁾ Consumers increasingly want to know where their food comes from and how it was grown, raised, or produced. This need for greater connection and accountability with food and food practices is expected to increase local food demand and direct farm to consumer sales.^(25, 30)

New kinds of competition: Although supermarkets still comprise the largest percentage of retail food sales, other store types now display food on their shelves. These include general merchandisers, club warehouses, drug and discount stores, gas stations, and dollar stores. Convenience stores and specialty food stores also make up a growing segment of stores that sell a significant portion of food.^(9, 12, 31) It is expected that these stores will continue to add grocery space. Supermarkets have responded by offering a broader selection of non-food items and services to make-up for lost food revenue.⁽¹³⁾

Easy meals: Most Canadian food retailers now offer complete meals, ready to take home and eat. The growth of the convenient meal solutions market has blurred the traditional line between grocers and takeout restaurants. In the United States, supermarkets now account for nearly one-fifth of all take-out foods sales.⁽³²⁾ There is also a growing consumer demand for easy meals and simplified meal preparation ingredients, such as sauces or pre-cut and washed vegetables, which is expected to increase.⁽³³⁻³⁵⁾

GEOGRAPHICAL DISPARITIES IN FOOD RETAILING

Rural areas in Canada and the United States have fewer and smaller food retail stores than do urban areas.⁽³⁶⁻³⁸⁾ This can limit product variety and availability of lower cost store-label or generic items. Very remote Canadian communities often have only one or two stores that sell both food and merchandise.^(39, 40) These stores generally have a limited range of foods. Food costs more than in non-remote communities, and the selection and quality of perishable food is often poor.⁽³⁹⁻⁵¹⁾ This can be due to transportation issues (e.g., distance and cost, frequency and method of delivery), consumer demand and lower sales volumes, and stock management practices.^(45, 51)



3. TRENDS IN CONSUMER FOOD SHOPPING

Surveys of Canadian adults point to four main factors that influence food purchasing behaviour. These are a desire to eat healthy, the need for convenience, taste, and price.^(13, 52-54) Here we summarize some of the trends these factors are driving in the food market.

FOOD EXPENDITURES

The percentage of household expenditures allocated to food from all sources (including restaurant foods and non-alcoholic beverages) has steadily declined since the early 1960s⁽²⁸⁾ representing 14.1% of overall spending in 2011.⁽⁵⁵⁾ However, total spending on food has increased as consumers spend more of their food budgets on higher-value items including restaurants, alcoholic beverages, and more expensive foods (e.g., red meats, heavily processed or prepared food items).⁽²⁸⁾

WHERE AND HOW PEOPLE SHOP

Food offerings at general merchandizing stores, convenience stores, drug stores, and other specialty locations is changing where Canadians shop for food.⁽¹³⁾ Although most Canadians shop for groceries at least once a week, they value efficient shopping. This is impacting store selection and in-store behaviour.⁽⁵⁶⁾ According to a 2010 market analysis report by Agriculture and Agri-Food Canada, consumers' need for convenience is reflected in shopping at the most convenient location, adopting a flexible approach to shopping where larger shopping trips are combined with more frequent top-ups, speed shopping, and auto-pilot purchasing leading to more habitual purchasing, and on-line purchasing.⁽³³⁾

DEMOGRAPHIC INFLUENCES

Various demographic influences impact food shopping behaviours and the demand for certain foods. For example, Canada's expanding immigrant population is influencing the demand for a wider range of ethnic foods.⁽⁵⁷⁾ Canadians over the age of 55 spend more money on premium gourmet products and healthier food choices.⁽¹³⁾ A higher percentage of single and two-person households has increased demand for food in smaller packaging. Consumers report that they intend to buy more food to eat at home and spend less on eating out.⁽⁵⁶⁾ This trend is considered partly a response to current economic conditions and the demographics of an aging population.⁽²⁷⁾

CONVENIENCE WITH QUALITY

The trend is increased demand for convenient or pre-prepared foods. People want nutritious foods that taste good and are simple and quick to prepare. There is also increased demand for premium and gourmet foods, value-added foods with potential health benefits, and ethnic foods.⁽¹³⁾ There is a movement in consumer preferences towards less processed foods.⁽¹³⁾ Consumers are supplementing food made from scratch with semi- or fully-prepared foods. Single-serve, pre-packaged, and portion-controlled products also are increasingly popular as part of a meal or snack.^(33, 35, 53, 58)

In a survey completed in the United States, consumers stated that grocery stores were not providing them with enough assistance or information on making healthy quick meals. They noted the lack of signage, expert help, and healthy pre-made food choice options.⁽⁵⁹⁾

AUTHENTICITY AND SUSTAINABILITY

Many consumers are interested in authenticity and sustainability of the food supply. This has led to changes in how people think about food and how they eat it. Direct grower-to-consumer purchasing and the Slow Food movement are examples of this trend, as are terms such as food miles, carbon footprints, and locavore. These trends are expected to continue.^(25, 26, 29, 33)

SOCIOECONOMIC DIFFERENCES IN FOOD SHOPPING HABITS

A significant predictor of dietary choice is cost or price, especially among those with limited incomes.^(60–63) Socioeconomic factors have a major influence on food purchases and consumption.⁽⁶⁴⁾ Households that earn less than \$35,000 per year indicate that cost is a very important factor affecting food choice, (49% in 2004 and 59% in 2008), compared to households with incomes over \$75,000 (17% in 2004 and 33% in 2008).^(52, 53)

The 2010 Survey of Household Spending found that on average food accounted for 14% of all expenditures, ranging from 8.3% for the highest income group to 14.4% for the lowest income group.⁽⁶⁵⁾ While all income levels spend the largest proportion of their food dollars at supermarkets, low-income populations typically spend proportionally more at supermarkets and convenience stores whereas higher income populations spend relatively more at food specialty stores.⁽⁵⁸⁾

As income decreases, price becomes increasingly the most important factor influencing purchasing decisions.^(52, 53)



4. LITERATURE REVIEW OF HEALTHY EATING PROGRAMS IN FOOD RETAIL

Grocery store interventions to promote healthy eating often include one of, or a combination of, three approaches:

1. Point of purchase (POP) information programs, which can include displays of print material, electronic media, grocery store tours, taste tests, and cooking demonstrations, sometimes with a Registered Dietitian.
2. Price reductions and coupons, which can provide an economic incentive for eating nutritious foods.
3. Shelf space strategies, which can provide better access to nutritious foods and increase consumers' exposure to them.

Findings from the literature review exploring these types of interventions are described below. As well, findings from a review of literature on interventions that employed multiple strategies, included partnerships between schools and grocers, or that involved small food retailing including in northern and remote regions, are presented in this section.

The programs reviewed showed varying degrees of effectiveness. There was improvement in knowledge, awareness, and sales of promoted foods. Results were weak or lacking regarding long-term or sustained changes in purchasing habits. Evidence of improvement in consumption of more nutritious foods was lacking.

The following five program components were most often reported to support successful implementation:

1. Collaboration between stores and community initiatives or government agencies.^(66–68)
2. Support from health professionals or health agencies for resource development (brochures and posters) and in-store nutrition education.^(66, 69, 70)
3. A project champion.^(66, 68)
4. Ability to meet the changing needs of the host organization and target audience. Interventions that could be subdivided into parts and delivered in a variety of sequences or formats were more likely to be sustained and promote positive results.⁽⁶⁸⁾
5. A good fit with an organization’s mission, objectives, and routine, including support and education for food retail staff.^(68, 69, 71, 72)

Five factors were most often mentioned as important for influencing longer-term behaviour change in food shopping, purchases, and consumption patterns.

1. The intervention is based on behaviour change theory.^(73–75)
2. The intervention is of sufficient duration.
3. The intervention includes take-away reminders to refer to at home.⁽⁶⁶⁾
4. The intervention is based on clear goals and objectives and used highly visible, targeted messages.
5. The intervention is multi-faceted. Researchers suggested that single intervention strategies were often not sufficient and that a range of interventions in different community settings would be needed to affect change.^(66, 76, 77)

POINT OF PURCHASE INFORMATION PROGRAMS

Point of purchase information programs can include displays of print material, electronic nutrition information, grocery store tours, taste tests, and cooking demonstrations, sometimes with a Registered Dietitian. Two review articles highlighted a number of POP grocery store programs.^(76, 78) The programs focused on decreasing high-fat food purchases, increasing low-fat purchasing choices, and/or increasing the availability of produce. Program outcomes typically focussed on awareness and self-reported use of POP information. Some favourable effects were found when brand specific items were targeted for POP information. They often aimed to influence knowledge, awareness, and purchasing of a targeted food.^(76, 78) According to one of the review articles, results were inconsistent and/or weak for changing long-term purchasing patterns and improving dietary intake, largely because these factors were either not measured or the intervention had no impact.⁽⁷⁶⁾ Researchers noted that it was difficult to assess the impact—in particular the longer term impact—of a population-style intervention when many variables are out of the researcher’s control. It was noted that these programs had good potential to enhance the participating stores’ community image.

The second review article considered 10 supermarket interventions and found conflicting results. The studies varied in length from one week to two years.⁽⁷⁸⁾ Eight of the 10 studies used information strategies (such as recipe cards and taste tests), while two used additional strategies of increasing the availability of nutritious choices or providing price incentives. There was little evidence to suggest that any particular combination of information strategies was more successful than any other. Typically there was an increase in knowledge and awareness. Sometimes there was a change in purchasing patterns, but no evidence was produced for significant changes in dietary intake.⁽⁷⁸⁾

In addition to the review articles cited above, we also reviewed 20 research articles that evaluated the effectiveness of POP programs. A summary of findings according to different kinds of POP interventions is presented below. Overall, researchers suggest that POP interventions involving collaboration between the health sector and the food industry may be a cost-effective and efficient way to access, intervene, and evaluate a wide cross section of the population.^(72, 79-81) However, these types of interventions require careful planning, support, and evaluation and often show mixed results.

PRINT DISPLAYS

Paint Your Plate, a Canadian-based, in-store interactive display and brochure, increased the research subjects' immediate knowledge about nutrition, but failed to increase knowledge retention.⁽⁶⁶⁾ The researchers concluded that using tangible, take-home incentives to reinforce the message, such as refrigerator magnets or recipe cards, would have improved retention.

A Japanese in-store signage campaign featured four messages about vegetables: disease prevention effects, nutrients, seasonal information, and recipes.⁽⁶⁷⁾ Posters were placed in highly visible locations within the produce section and at checkout counters. They were regularly changed to maintain customer interest. During the intervention period, sales of vegetables significantly increased at the intervention store compared to the control.

A six-month Dutch intervention encouraged consumption of low-fat foods using posters, brochures, recipe cards, shelf labelling, a contest, and a free self-help manual. The supermarket intervention did not affect fat consumption or nutrition knowledge. The evaluation highlighted some problems with the intervention. For example, the posters were too small and did not fit into stores' designed systems. Other in-store campaigns and advertisements interfered with the message. Furthermore, program materials were not displayed because of the need for space for stock.^(69, 71)

ELECTRONIC NUTRITION EDUCATION

The effectiveness of using computers, video, and public service announcements (PSAs) has been evaluated.^(73-75, 82) Since these studies were released, there have been enormous changes to individual access of information through the use of personal electronic devices, making the studies less relevant. We include them here because no studies assessing the use of more modern personal communication devices were found.

The Nutrition for a Lifetime System[©] was a self-administered, computer-based intervention based on social cognitive theory.⁽⁷³⁻⁷⁵⁾ The system was installed in two smaller supermarkets in the rural United States in the early 1990s. Individuals used an in-store computer kiosk to receive personalized information, behavioural strategies, and incentives for change. The system was used for planning and receiving feedback. Participants received personalized coupons and computer-generated educational material. Evaluation results found that participants in the program made and maintained meaningful nutritional changes in preparing and eating low-fat meals and in purchasing and eating more foods with lower fat content, higher fibre content, and more fruit and vegetables.

An evidence review that assessed the efficacy of interventions that used in-store videos concluded that videos may be a useful medium for in-store nutrition education if they actively engage people while they are making decisions about food choices.⁽⁸²⁾ Two of the studies in the review used short, nutrition-related videos, and PSAs that played while shoppers made purchases. Neither had an effect on shoppers' attitudes or purchasing behaviours. Three other interventions used an interactive video based on social learning theory, and positively influenced purchases. The researchers speculate that using passive transmission of information, such as video and PSAs, are ineffective strategies compared to interactive video formats.

GROCERY STORE TOURS

Two studies of grocery store tours were included in this report.^(83, 84) The first study was a pilot of Healthy Heart Store Tours 2000. The aim was to contribute to consumer understanding of appropriate diet and lifestyle changes to help maintain heart health. Data were analysed from over 180 Healthy Heart Store Tours held in approximately 150 stores around Britain. The tours positively influenced participants' intention to make dietary and lifestyle changes. It also gave a positive impression of the Dietitian, retailer, and manufacturer. But the researchers noted that more comprehensive research was needed into the tours' true impact on dietary changes and actual purchasing patterns.⁽⁸³⁾

A second study looked at the effectiveness of grocery store tours and provides lessons learned from the evaluation of eight heart healthy tours. The authors concluded that grocery store tours are a popular and cost-effective nutrition education intervention. Tours are effective in increasing knowledge and in promoting people's intention to make dietary changes. But again, research is needed to assess their impact on improving dietary intake.⁽⁸⁴⁾

TASTE TESTS

Although many programs included taste-testing as a part of a larger intervention with multiple components, only one study investigated the effects of taste-testing as a stand-alone intervention. The Ottawa-Carleton Heart Beat Program placed a taste test booth in four Loblaws locations for one month, allowing consumers to try low-fat cheese.⁽⁷⁰⁾ Sales of the low-fat cheese were higher after the intervention, indicating that taste test booths may be effective at changing purchasing behaviour.

PRESENCE OF A REGISTERED DIETITIAN

A Nova Scotia study looked at customer satisfaction with a grocery store's nutrition centre, which was staffed with a Registered Dietitian.⁽⁸⁵⁾ The evaluation included an intervention and a control grocery store. The Dietitian at the nutrition centre provided pamphlets, recipe ideas, cooking demonstrations, grocery store tours, and recipe analysis. The nutrition centre enhanced the image of the grocery store and may have positively influenced customers to shop at the store. Results were mixed when improvements in consumers' ability to prepare and eat nutritious foods were evaluated.

PRICING REDUCTIONS AND COUPONS

Price reductions and coupons provide an economic incentive for eating nutritious foods. Economic incentives may be a significant predictor of dietary choice for fruit, vegetables, and low-fat foods, especially for low-income people.^(60, 86-90) Studies in the United States examining the effects of economic incentives on participant behaviours found that coupon offers and price reductions are well received, feasible to implement, and may influence purchasing patterns.⁽⁸⁸⁻⁹²⁾ The studies that used coupons at farmers' markets and/or grocery stores to provide price reductions reported positive outcomes for coupon use to purchase vegetables and fruit.⁽⁸⁸⁻⁹²⁾ Another study, a randomized controlled trial conducted in eight New Zealand supermarkets, found that price discounts on nutritious food holds promise as a means to influence healthy food choices.⁽⁸⁶⁾

The Massachusetts Farmers' Market Coupon Program for Low-Income Elders reported high coupon usage and increased patronage at farmers' markets.^(76, 91) The evaluation tracked coupon usage but not changes in purchasing habits or consumption patterns.⁽⁷⁶⁾ In a study conducted in Los Angeles, low-income women participating in the Special Nutrition Program for Women, Infants and Children were given coupons for purchasing fresh produce at either participating grocery stores or farmers' markets. The evaluation results revealed almost 100% coupon redemption and an association with increased participant consumption of vegetables and fruit, which was sustained for six months.^(88, 89)

A range of strategic approaches at the Michigan Farmers' Market Nutrition Program were evaluated. Strategies included: education only; farmers' market coupons only; both education and coupons; no intervention. Researchers found that coupons alone had a direct effect on increasing produce consumption, but had no effect on attitudes. Education alone had an effect on attitudes, but not on purchasing. The maximum impact was achieved using a combination of education and coupons.⁽⁹⁰⁾

The Veggie Project in the United States combined several intervention strategies and targeted youth and their families, specifically in low-income, urban, minority communities. It developed a local farmers' market and provided food vouchers to use at the market. It also offered education to youth with the aim of increasing access to fresh produce. The program reported positive outcomes for voucher usage, produce purchasing, and accessing the farmers' market. However, researchers could not quantitatively document the influence of the intervention on dietary behaviour. They noted the high involvement of the youth and highlighted the importance of engaging youth as a central feature of the intervention.⁽⁹²⁾

The New Zealand-based Supermarket Healthy Options Project evaluated the effect of price discounts and tailored nutrition education on supermarket food and nutrient purchases. The price discount intervention consisted of an automatic 12.5% price reduction on all eligible healthier food products. Subjects who were randomly assigned to receive price discounts bought significantly more of the predefined healthier foods after 6 and 12 months. Tailored nutrition education had no effect on food purchases.⁽⁸⁶⁾

SHELF SPACE STRATEGIES

Shelf space strategies can provide better access to nutritious foods and increase consumers' exposure to them. Increasing the shelf space and visibility of nutritious foods, and in particular fruit and vegetables, may positively influence purchasing habits.^(44, 76, 93, 94) A large, community-based intervention in Colorado measured the shelf space devoted to fresh vegetables and fruit in grocery stores. Stores with more display space devoted to fresh produce had greater increases in produce purchases and customer consumption. Study participants in communities that had grocery stores displaying more varieties of produce had greater average increases in weekly servings of fruit and vegetables.⁽⁹⁴⁾ Another study found that average sales of specific categories of fruit and vegetables increased substantially when their grocery store shelf space was doubled.⁽⁹³⁾

INTERVENTIONS WITH MULTIPLE COMPONENTS

The literature search included eight large comprehensive programs that employed multiple strategies, along with point of purchase interventions. These interventions were offered for an extended period of time, and involved multiple collaborating stakeholders. Six programs were large, comprehensive health projects that included supermarket interventions. Two interventions were within a single store. Evaluation results for most of the initiatives were mixed. Researchers noted that designing high quality evaluations and measuring change at the individual level was difficult for this type of large population intervention.

THE SUPER PROJECT⁽⁹⁵⁾

The SUPER project is a part of the European Healthy Cities Project. It is a large-scale collaboration of eight European cities in different countries. The collaborators include grocery store managers, social workers, school teachers, restaurant staff, health workers, and consumers. Grocery store intervention results were reported as promising, but population health changes were not indicated.

EAT FOR HEALTH^(96, 97)

This United States-based project was offered jointly by the National Cancer Institute and Giant Foods Inc. The intervention was conducted in Giant's 105 Washington-area stores. Its 30 Baltimore stores served as

the comparison group over a two-year period. The program aimed to determine if a multi-component intervention could produce changes in consumer knowledge, attitudes, and purchasing behaviour, increase dietary fibre, and decrease dietary fat intake. The interventions included shelf labels, nutrition resources, recipes, posters, and advertising. During the second year, the campaign partnered with food producers to provide additional activities.

Results for the intervention were mixed. There were self-reported positive changes in nutrition knowledge, attitudes, and food purchasing behaviour, but these changes were weak and not significant. The most significant changes were the increase in awareness of the relationship between diet and chronic disease and awareness of the program itself. The researchers stated that the successful implementation and evaluation of the project demonstrated the feasibility of implementing large scale, long-term programs.⁽⁹⁶⁾

RURAL IOWA⁽⁹⁸⁾

This eight-month randomized intervention with a control group aimed to increase shoppers' consumption of produce. The program components included price reductions, advertising, recipes, menu ideas, 50-cent coupons for promoted produce, in-store signage, and food demonstrations. The intervention was not successful at increasing participants' fruit and vegetable consumption. The researchers suggested that point of purchase programs need to use more intensive strategies and run activities of a longer duration. They also said the evaluation could have been improved with better access to store sales data.

AUSTRALIA⁽⁹⁹⁾

A 15-week Australian intervention was a component of a larger community-wide health promotion project. The objective of the grocery store program was to promote the selection and purchasing of low-fat dairy, fresh produce, and grain products. The foods were promoted using educational resources, advertising mass media campaign, competitions, taste testing, and cooking demonstrations. Evaluation results indicated that awareness of the promotion was high, with some self-reported behaviour change.

ZHIWAAPENEWINAKINO'MAAGEWIN DIABETES PREVENTION STUDY^(77, 100, 101)

This Canadian community environmental intervention was developed through formative research and community workshops in which stakeholders contributed ideas and strategies. One of the primary goals was to improve dietary choices by changing the food environment. This was achieved by working with local food stores to increase the range of healthy options and to promote the foods both in-store and throughout the community, including in the schools. Results found that participants had an increase in knowledge about healthy eating and purchasing of nutritious foods.

APACHE HEALTHY STORE PROGRAM^(101, 102)

This program aimed to change the food environment by working with small and large food stores on the reserve to increase the range of healthy options and to promote these foods both at the point of purchase and through community promotions. Trained staff worked with local store owners and managers to increase the stocking of healthy foods that community members had identified during program development. The researchers reported that the combination of mass-media activities, in-store signage, flyers, interactive sessions, promotional giveaways, and the increased availability of nutritious food options led to positive outcomes. The intervention positively affected psychosocial factors, food consumption, and food-related behaviours.⁽¹⁰¹⁾ Improvements in health outcomes were not assessed.⁽¹⁰²⁾

HEALTHY KIDS' PROGRAM⁽¹⁰³⁾

The United States-based, child-focused grocery store intervention was implemented in one family-owned grocery store. It aimed to increase child and parent awareness of nutritious foods and elicit changes in parental purchasing behaviour. Over 12 weeks, a kiosk featured foods from each of the food groups in MyPlate, which translates dietary guidelines in the United States for consumers. There was also a sampling pod with healthy snacks prepared with items from the kiosk. Researchers collected data on changes in sales for featured products. They also observed customers at the kiosk and gave them a brief questionnaire. Results showed an overall increase in the proportion of sales of the featured items to total store sales during the intervention period; however, it was not possible to determine if the sales increase was from the intended audience. Almost two thirds of the patrons interviewed noticed the Healthy Kids' kiosk, with about one quarter indicating that they purchased at least one featured item. Fifty-eight percent reported that the kiosk encouraged them to buy healthier foods.⁽¹⁰³⁾

EAT SMART⁽¹⁰⁴⁾

This intervention was in one grocery store in Arizona and included control groups. Strategies included a ten-minute presentation by a nutrition educator, which included an explanation and promotion of a shelf signage program identifying healthful foods, sample shopping lists, and tips. Researchers found that participants purchased more fruit and dark-green or yellow vegetables compared to controls. No other differences were observed.⁽¹⁰⁴⁾

SCHOOL PARTNERSHIPS WITH GROCERS

Three school-based health initiatives that included grocery store components were reviewed.^(105–107) The interventions only evaluated process and all interventions had participation problems.

The first aimed to increase students' fruit and vegetable consumption. The students were to take a supermarket tour and receive store coupons. Due to lack of time and interest, most teachers did not have their students participate in the grocery component of the initiative.⁽¹⁰⁵⁾

The second was a school-based nutrition intervention that extended into the community to influence parents to purchase more produce. Parents were invited to the grocery store to tour the produce section and taste vegetables. The grocery store had "5 a Day" signage posted and gave participating parents a free basket of produce and recipes. Few parents participated in the scheduled programs and the researchers did not provide any explanation for the lack of attendance.⁽¹⁰⁶⁾

In the third initiative, Show the Way to 5-a-Day, a United States school-based program promoted and educated students about eating produce in collaboration with local grocers. A nutrition guide was developed to help young children increase fruit and vegetable consumption. The guide was based on the principles of social cognitive theory, pilot tested, and produced after significant input from teachers and students. Education in the classroom was augmented by links with the local grocery stores. Grocery stores provided produce either free or at a discounted price. Teachers reported challenges with the grocery store component. They indicated that obtaining produce was either too difficult or expensive. However, schools that did succeed in receiving produce were more likely to have implemented the education program and used the nutrition resources developed for the intervention. Results of the study suggest that state-wide dissemination of the program was enhanced by linking teachers with grocery stores and by providing training or personal introduction to the guide.⁽¹⁰⁷⁾

SMALL FOOD RETAIL INCLUDING NORTHERN AND REMOTE

Evaluations of food retail interventions were predominantly in urban supermarket environments in the United States, although there is a growing body of research evaluating interventions in convenience stores in lower income urban areas and grocery stores in remote regions. Researchers have suggested that nutrition interventions aimed at improving the availability of nutritious foods in smaller food retail stores is a promising strategy for improving the nutrition environments of local communities.^(16–18, 44, 72, 78, 108–110)

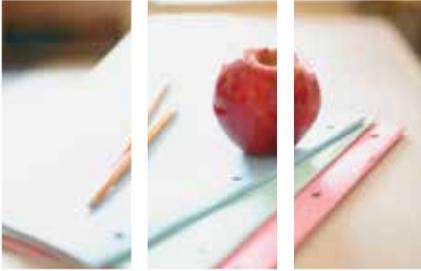
Suggested activities include:

- altering shelf space allocation to increase the availability and visibility of nutritious food;
- stocking a wider range of nutritious food;
- upgrading the store to allow it to offer more vegetables and fruit;
- decreasing the stock of snack foods and sugar-sweetened beverages; and
- signage promoting nutritious food.^(16, 44, 72)

Researchers in the United States explored urban convenience store owners' perceived barriers and structural problems related to nutritious food stocking and ordering procedures.⁽¹¹¹⁾ They and others found that convenience stores often significantly increased the variety and sales of nutritious foods when they received support from government, city, and community agencies to implement strategies such as nutrition education, taste-testing, and cooking demonstrations.^(16, 44)

The literature review found three culturally sensitive and similarly designed store-based interventions that aimed to change the food environment by working with food stores to increase the range of healthy options and promote the foods using point of purchase programs. These were the Canadian First Nations' program Teaching to Prevent Diabetes and two American programs: Apache Healthy Stores Project and Baltimore Healthy Stores.^(17, 77, 101, 108, 112–114)

The Canadian program also included a school component, where a locally developed health curricula was introduced to students in grades three to five that reinforced messages presented in the store. The program was designed through stakeholder engagement including community workshops to ensure that it was meeting the target population's needs. Storeowners were requested to stock the promoted foods and offer the POP programs. Evaluation of the Canadian program found that there were improvements in participant knowledge levels and purchasing of nutritious foods.



5. PROFILES OF SELECTED FOOD RETAIL INITIATIVES IN CANADA

In this section, 11 Canadian food retail initiatives and one initiative that included programs in both Canada and the United States are profiled. The programs were selected based on evidence of:

- an identified program champion;
- clear goals and objectives;
- activities based on a defined theory for change;
- multiple points of intervention;
- resource intensity, such as store management and staff support;
- modifiable features;
- low cost; and
- an evaluation component that showed effects of the intervention.

Information on the programs was gathered through structured telephone interviews with key informants. Key informants also shared their successes and challenges as well as advice to others, relative to their initiatives.

The 12 initiatives represent a mix of the following elements:

Location: National, provincial, regional

Setting: Urban, rural, northern, and remote

Target group: Children and youth, general population, vulnerable populations

Partners: University researchers, non-governmental organizations (NGOs), community groups, local, federal, provincial, and territorial governments, health sector, education sector, consumers, industry, or private sector

Project type: POP strategies, pricing, stocking/shelving/checkout changes, curriculum, loyalty or incentive, fund raising, or part of a community campaign

NATIONAL, PROVINCIAL, AND REGIONAL INITIATIVES

WESTERN CANADIAN HEALTHY CONVENIENCE STORE PROGRAM

The Healthy Convenience Store Program was announced by the British Columbia government on August 11, 2011 as part of the Healthy Families BC Initiative. Consumer use of convenience stores is strong and growing. As such, these stores are seen as important environments in which to promote healthy eating. The program aims to improve the health of British Columbians by helping the public make healthier food choices when shopping in convenience stores through education and increased availability and visibility of healthy food choices. The program is still in the planning phase.

Partners and collaborators:

- British Columbia Ministry of Health;
- Canadian Convenience Stores Association;
- Western Convenience Stores Association;
- 7-Eleven, Mac's, and Suncor (major convenience store chains);
- Direct Plus Food Group;
- Heart and Stroke Foundation's Health Check™ program; and
- Other western provinces (Alberta, Saskatchewan, potentially Manitoba).

Program content and implementation: The partners are collaborating on program content based on mutually agreed upon objectives: ease of implementation; inclusion of all industry convenience stores but with voluntary participation; flexibility; government support and endorsement; education and support for store staff; and an evaluation component. Stores that meet specific criteria will receive a healthy convenience store designation from the Western Convenience Store Association. Since this program is being developed with participation from large national chains it has the potential to be rolled out to other areas of Canada.

Successes and challenges: All of the partners support the goals of the program. Partnering with government and a non-government organization helped to strengthen the program's credibility. The challenges centre around retailer concerns about consumer awareness and interest, because if the

promoted foods are not sold then retailers will not continue to stock them. Another challenge is that of including independent convenience stores, which make up half of all convenience stores. Developing point of purchase information and food nutrient analysis are the responsibility of the retailer. Independent convenience stores do not have the resources that the larger chains do.

Sustainability and advice to others: To be sustainable, retailers will need training and support. This could be accomplished through existing retail associations with web-based training and support. Partnering with government for background support, expert advice, and added credibility is also key.

RETAIL COUNCIL OF CANADA (RCC) GROCERY DIVISION

Retail Council of Canada grocery members support a variety of programs that educate customers about healthy food choices. Retail Council grocery members believe that consumers are the driving force behind changes in the food retail sector. All initiatives must flow from this consumer-oriented approach.

Partners and collaborators:

- government;
- grocers;
- health organizations;
- food suppliers; and
- manufacturers.

Program content and implementation: The RCC encourages industry-wide programs that focus on one overarching agreed-upon message. There must be flexibility in how the message is delivered. This strategy allows stakeholders to tailor programs based on their business type. Vehicles that the RCC suggests using to promote programs include: websites, flyers, store shelves, phone apps, recipes, scan-able codes to access food information, and in-store promotions. Collaboration with stakeholders like Dietitians of Canada, public health staff, or university dietetic internship programs are valuable.

Successes and challenges: The best avenue to success is to focus on a single health message and highlight choices as opposed to prescribing consumer behaviour. Since food retailers are in the business of meeting consumers' needs and demands, healthy eating education initiatives should be integrated across food retail environments. This challenge can be overcome by collaborating with other stakeholders such as government health agencies, schools, and community organizations.

Sustainability and advice to others: Develop industry-wide campaigns with one message and multiple intervention strategies. Highlight healthier choices instead of delivering prescriptive messages.

EAT HEALTHY AND EARN BONUS AIR MILES® REWARD MILES WITH HEALTH CHECK™

The concept for partnering Air Miles® with the Heart and Stroke Foundation's Health Check™ to promote the purchasing of heart-healthy foods was conceived by the Air Miles® Healthy Living Strategy and Social Change Divisions. Both the Air Miles® and Heart and Stroke Health Check™ programs recognized that they had similar health promotion goals. Air Miles® knew they could reach a large segment of the population since they have approximately 70% of Canadian households in their member base.

Partners and collaborators:

- Health Check™ program;
- Air Miles®;
- 72 British Columbia Safeway stores;
- British Columbia Ministry of Health; and
- Heart and Stroke Foundation of British Columbia and Northwest Territories.

Program content and implementation: The Air Miles® program with Safeway was developed by Health Check™ management and the British Columbia Ministry of Health. The program tested financial incentives to change behaviour related to the purchasing of healthier food products in grocery stores. From previous business experience and data collection the Air Miles® and Health Check™ programs believed that incentive programs and price discounts would increase purchasing of the promoted items. The program was offered for four weeks in the spring of 2011 in Safeway stores throughout British Columbia. Consumers received 50 Air Miles® if they purchased five Health Check™ products and 15 Air Miles® if they purchased 15 dollars' worth of produce. Healthy eating information was also provided in Safeway flyers for the duration of the program. The program was promoted using emails to British Columbia-based Air Miles® subscribers, Heart and Stroke Foundation Healthline newsletter subscribers in British Columbia, Safeway flyers, TV and radio advertising, in-store signage, and web site information. The British Columbia government provided funding for the incentive-based Air Miles® reward miles awarded to participating consumers. Store staff were involved in program implementation and received some training.

Successes and challenges: This unique and innovative program was an excellent example of collaboration among organizations that do not normally work together. This type of program could be used by other food retailers who offer loyalty programs. Since this was a new program to persuade consumers to purchase Health Check™ products, it was challenging to predetermine the best incentive and point redemption levels. Although the program was very successful, a scaled-back program may be just as successful, such as purchasing three Health Check™ items and receiving 15 reward points. A comprehensive research and analytics component, with follow-up, should be built into future initiatives, since sales data is already being collected.

Sustainability and advice to others: A comprehensive evaluation component that gathers information about health outcomes as well the process could improve program efficiency and make the program more sustainable. It is easier to develop innovative programs when partners have a shared understanding of the goals and approach. It also helps to include stakeholders with established brands and reputations that the target audience trusts.

HEALTH CHECK™ RETAIL FLYER TIPS

The Health Check™ team and Heart and Stroke Foundation marketing manager recognized an opportunity to easily reach consumers with health information while adding value to store flyers. They did this by providing grocery stores with digital, downloadable, healthy eating messages.

Partners and collaborators:

- Canadian food companies;
- food retailers;
- Registered Dietitians;
- consumers; and
- Heart and Stroke Foundation.

Program content and implementation: The nutrition messages were developed by a technical advisory committee, consisting of a Registered Dietitian, nutrition experts, consumers, and Heart and Stroke marketing and communications' staff. The messages were pre-tested using consumer focus groups. Fourteen messages were developed and are updated annually. They provide information from Canada's Food Guide and from the Nutrition Facts Table. The Heart and Stroke Foundation pays for development costs of the educational tools. The images are available at no cost to retailers. The messages are applicable for all food retailers.

Successes and challenges: This was an efficient, quick, easy, and relatively low-cost way to add value to retail flyers and other forms of advertising that could be distributed Canada-wide. The concept could be replicated in other areas. The only requirement of retailers with a loyalty program is to provide a small amount of space within their flyers and to integrate the program into their other promotional vehicles.

THE BRITISH COLUMBIA FARMERS' MARKET NUTRITION AND COUPON PILOT PROJECT

The Farmers' Market Nutrition and Coupon Project explored the role of farmers' markets as vehicles to increase the consumption of nutritious foods by low-income families. It started as a pilot project in 2007 in five British Columbia communities, running for 15 weeks. By 2009, the project had expanded to 16 communities, participating in a 17-week season.

Partners and collaborators:

- credit unions;
- prenatal nutrition programs;
- friendship centres;
- skill building programs and community service organizations;
- British Columbia Association of Farmers' Markets;
- British Columbia Ministry of Health;
- British Columbia Ministry of Agriculture and Lands;
- British Columbia Ministry of Employment and Income Assistance;
- City of Vancouver Food Policy; and
- Vancouver Community Kitchen Project staff.

Program content and implementation: A provincial steering committee with representation from all of the partners and collaborators developed the projects' objectives and content, drawing from the experiences of similar programs. The program targeted low-income, pregnant women, and low-income families with children. The strategy was to work through existing, community-based, cooking and skill building programs. The program's goals were to:

- increase access to fresh, British Columbia-produced farm products for low-income families;
- complement existing cooking and skill building programs; and
- expand awareness of, usage, and sales at British Columbia farmers' markets.

Community programs were provided with 15 dollars' worth of coupons each week for up to 50 participants. Participants could then redeem the coupons at their local farmers' market. Program costs were covered by a government grant. Farmers' markets received an honorarium for administration costs. The program developed a training kit with a CD, signage, templates for documents such as tracking forms, nutrition and cooking programs, websites, newsletters, nutrition resources, and recipes. There was orientation for farmer's market managers and program coordinators. Throughout the project, community agencies and market managers reported weekly activities and experiences through an online survey. The project manager liaised regularly with the program partners. Community skill building programs and farmers' market managers contributed additional resources, volunteering time beyond the value of the honorarium to ensure that the program could be successful in their communities.

Successes and challenges: The model was effective given the high coupon redemption rate. The evaluation did not assess changes in participant's diet as a result of the program. It only tracked coupon distribution and usage. There was a high degree of success in reaching the target audience and in meeting the project goals. A wide range of food was purchased, with many families accessing foods they had never tried or felt able to afford. Farmers at participating markets perceived a moderate increase in the sales of their products, actively supported the project and indicated many positive impacts for themselves and their

communities. Project sites regularly provided program improvement suggestions. Partners communicated regularly and had the information they needed to fulfill their roles. Community partners felt well supported through the orientation, phone calls, project materials, and newsletters.

Initial barriers to participation were language, transportation, and childcare, especially with markets being accessible only one day per week. The transportation barrier was addressed through the provision of bus tickets. Other possible solutions could be offering childcare or scheduling weekly pick-ups. The need for lower literacy or translated resource material for non-English speaking clients resulted in the adaptation or translation of the nutrition and program resources.

An unforeseen challenge was a strategy on the part of some participants to save all their coupons in order to purchase more expensive meat at the end of the program, instead of buying a variety of foods. To resolve this problem the organizers suggested having expiry dates on the coupons and developing two sets of coupons, one for fruit and vegetables and the other for meat or other foods.

Program sustainability and advice to others: It is important to ensure sufficient program planning time. A minimum of three months for program development, organization, and partner training is needed. Wherever possible, it is best to use existing resources.

NORTHERN, RURAL, AND REMOTE INITIATIVES

ARCTIC CO-OPERATIVES LTD. RETAIL-BASED NUTRITION INTERVENTION INITIATIVE

Arctic Co-operatives Limited is owned and controlled by 31 community-based co-operative business enterprises located in Nunavut and the Northwest Territories. It coordinates resources, consolidates purchasing power, and provides operational and technical support to the community based co-operatives. This enables them to provide a wide range of services to their local member-owners in an economical way. Arctic co-op stores are in northern communities where there are only one or two stores, giving a relatively captive market. Store-based healthy eating initiatives are usually initiated by federal or territorial governments, health and community organizations, and university researchers.

Partners and collaborators:

- The First Nations and Inuit Health Branch, Health Canada;
- Territorial governments;
- Teaching to Prevent Diabetes;
- Healthy Foods North;

- community health workers;
- community leaders and elders; and
- other retailers such as the North West Company.

Program content and implementation: Government staff and university researchers developed the programs based on best practice research and their knowledge of behavioural change theories. The programs used a community-wide, population health approach. Community agencies collaborated with the researchers and the co-operatives in developing specific plans and activities.

The Retail-based Nutrition Intervention was done in partnership with the First Nations and Inuit Health Branch, Health Canada. Ten nutritious foods that were high in nutrients of concern (e.g., iron, calcium), relatively affordable, and easily shipped to remote communities were targeted for promotion in both the community and in-store. A set of recipe and food fact cards was created to promote the use and consumption of the ten foods. The recipe cards were distributed by stores and Health Canada-funded community programs (Canada Prenatal Nutrition Program, Aboriginal Diabetes Initiative). During the promotion period, stores employed price reductions, in-store taste testing, cooking demonstrations, flyer advertisements, and increased availability of promoted foods. Store activities were scheduled and offered in coordination to maximize advertising, promotion, and purchasing of the ten food items. The cost for the project was shared by the federal government and Arctic Co-operatives.

Successes and challenges: These initiatives could be adapted and used in communities with similar settings and cultures. Since residents own, manage, and shop at their co-operatives, they are receptive to in-store programs that meet community needs. The incentives and help offered to store management encouraged them to implement the program. The initial collaborative work and training facilitated consistency and support for program messages.

The retailers reported challenges with ordering and stocking the promoted foods. They needed to be included earlier in the program development process because ordering for remote northern regions requires planning months in advance to take advantage of lower-cost, seasonal shipping means (such as ice road or barge). Retailers also wanted more expert help with ordering and stocking nutritious food, changing store layout, storing and displaying nutritious food, and training staff. The program would have benefitted from greater involvement by store managers in program evaluation and defining success parameters.

Sustainability and advice to others: Continuous information sharing among all the stakeholders sustains the program by overcoming barriers and finding solutions to problems such as the lead time needed in the food procurement process. It is important to co-operatively determine what planning and implementation pieces are best accomplished locally or by central office. Both local retail stores and central office management need to be engaged co-operatively in program development, implementation, and evaluation. Networking among store managers also helps to maintain momentum.

NUTRITION NORTH CANADA (NNC)

Launched in April, 2011 Nutrition North Canada is a retail subsidy program that seeks to improve access to healthy fresh and frozen foods for people living in isolated northern communities. Nutrition North Canada replaced the decades-old Food Mail Program after comprehensive reviews and extensive community engagement.

Partners and collaborators:

- isolated northern communities;
- Aboriginal Affairs and Northern Development Canada;
- Health Canada;
- Territorial governments;
- northern retailers; and
- southern suppliers.

Program content and implementation: Aboriginal Affairs and Northern Development Canada funds and manages the retail subsidy component of the program. The retail subsidy is transferred directly to retailers, suppliers, and federally-regulated northern country food processors that have applied, met the program's requirements, and entered into agreements with the federal government. They are accountable for passing on the subsidy to their customers and compliance is monitored. Health Canada funds culturally appropriate, retail, and community-based nutrition education initiatives, or activities in First Nations and Inuit communities that are eligible for the full retail subsidy. Funding flows via contribution agreements to eligible First Nations or Inuit organizations, or to territorial or provincial governments. The initiatives are meant to complement the food retail subsidy in influencing healthy eating patterns in isolated northern communities and strengthen retail-community partnerships. The aim of the nutrition education activities is to increase knowledge of healthy eating and develop skills for the selection and preparation of healthy, store-bought, and traditional or country foods.

Successes and challenges: The Nutrition North Canada Advisory Board gives northerners a direct voice in the program and advises the Minister of Aboriginal Affairs and Northern Development Canada on the management and effectiveness of the program. Extensive and early engagement with stakeholders helped with transitional planning.

The NNC program model, in contrast to the program it replaced, gives food retailers and suppliers greater control over logistics and product handling, which has shortened the supply chain and helped diminish loss of healthy perishable foods due to spoilage during transit. In its first year of operation, the NNC program model appears to have supported greater consumption of healthy perishable foods.

Early successes of the nutrition education initiatives include:

- enhanced linkages with local stores;
- strengthened education in nutrition, healthy eating, and cooking skills;
- broadened reach to youth through on-the-land camps;
- school-based activities and after school programs;
- co-ordination with other community programs; and
- training of program workers.

Implementing Nutrition North Canada highlighted the importance of clear and timely communication with all stakeholders. To assist with this challenge, the program has been working to improve communications. There have been a number of education sessions with community members and program workers to help improve understanding of the program.

Program sustainability and advice to others: Both components of the program—the subsidy and the educational component—are considered transferable to other similar settings. The program’s sustainability centers on ensuring that the program meets each community’s context with stable funding flexibility. This can be accomplished with advance planning and by working with all stakeholders.

NORTH WEST COMPANY’S (NWC) HEALTHY EATING INITIATIVE

The North West Company promotes a culture of health at all company levels and for many years has supported local diabetes initiatives. The company recognizes diabetes as a major health problem for many northern residents. This has prompted additions to store services, such as pharmacy and other health services. The North West Company’s Healthy Eating Initiative also reflects this core value. The NWC is registered with the Nutrition North Canada Program and distributes information provided by Aboriginal Affairs and Northern Development Canada. In addition, the company created their own in-store signage, resource materials, and advertising to promote affordable and accessible healthy food choices.

Partners and collaborators:

An advisory group representing provinces and territories with North West Company stores included:

- Registered Dietitians and Nutritionists;
- federal, provincial, and territorial health staff;
- nurses;
- co-ordinators of prenatal programs; and
- community health organization staff.

Program content and implementation: The North West Company's corporate executive set overall goals for the initiative but the execution of the program was responsive to individual store and community needs. The approach was to develop an initiative that would be easily implemented and usable in all North West Company stores, regardless of store size. Interventions had to be simply implemented, practical, inclusive of the languages spoken by community residents, long-term, and sustainable. The approach drew on research and experience from other food retail programs, such as the Retail-based Nutrition Intervention. A Dietitian employed by the company worked with the corporate office, community leaders, and the advisory committee to develop the school, community, and in-store healthy eating programs. The initiative had five intervention streams:

1. An in-store component with signage, recipe cards, and cooking classes.
2. A monthly newsletter with nutrition information and co-ordinated recipes to go with foods that were on sale at the store.
3. A series of diabetes resources for health professionals to use with their clients.
4. Ongoing support for nutrition programs offered by government, community, research, or school partners.
5. Donated space for health care providers to offer diabetes or other educational classes.

The company covered the costs of the Healthy Eating Initiative as well as the extra promotional materials for the Nutrition North Canada Program. Company staff received ongoing support and training using web-based information, DVDs, courses, and certification classes. Store managers also received nutrition information and program updates at their annual conference.

Successes and challenges: The North West Company's Healthy Eating Initiative worked well. This program could benefit almost any retailer in the north or south, providing a co-ordinator was hired to manage and oversee the program. The program was simple for stores to understand and execute with minimal extra work required. Many community leaders considered it a benefit to have programs offered at such a widely accessed location. Having an advisory committee ensured that the program content and implementation was mutually agreed upon and acceptable to all the stakeholders.

The need for more programming like this was noted, as well as public awareness and visibility for existing healthy eating and food subsidy programs. There were some challenges around signage maintenance and in-store resource distribution. Possible solutions identified were to engage community partners who could help champion and support the initiatives and to simply expand the in-store programs and their visibility. Program evaluation was an additional challenge. Tools and measures to track knowledge and behaviour changes as a result of the intervention needed to be developed. Suggestions to address the research challenges included using online pre- and post-surveys for evaluation. Participation could be encouraged by offering participants incentives such as coupons for free or discounted food. Loyalty program information could also be linked with survey responses.

Sustainability and advice to others: Retail stores offer an established, stable, long-term community location to provide programs. When a company's corporate culture and management support healthy lifestyles, programs are more sustainable. Sustainability also requires that community members identify a need for the program and are willing to participate. This requires regular communication and requests for feedback from all stakeholders. These types of programs should be considered community service initiatives and not be viewed as profit-making ventures.

ZHIIWAAPENEWIN AKINO'MAAGEWIN: TEACHING TO PREVENT DIABETES

First Nations leaders and health professionals concerned with diabetes and other health issues approached researchers from the University of Western Ontario, Johns Hopkins University, and University of Toronto for help. After a feasibility study, an intervention program promoting healthy eating and lifestyles for First Nations communities in Northwest Ontario and the United States was developed, implemented, and evaluated.

Partners and collaborators:

- American Diabetes Association;
- Canadian Institutes of Health Research;
- community health and social service staff;
- schools;
- band leadership;
- North West Company local and corporate management;
- Arctic Co-operatives local and corporate management;
- community members; and
- Territorial government staff.

Program content and implementation: The program aimed to reach the majority of community members by working in many institutions simultaneously. Partners, key stakeholders, and community members were extensively involved in generating knowledge about the needs and resources of each community, as well as giving feedback on the interventions through community workshops and formative information gathering. There were in-depth interviews, a structured survey, engagement sessions, group activities, and brainstorming and prioritization meetings with community leaders, elders, and other key stakeholders. The intervention was based on an expanded social ecological framework, social cognitive theory, previous intervention work with First Nations, and social marketing research. The goal was to develop and evaluate diabetes prevention programs that:

- improved the availability of affordable healthy foods in local stores;

- promoted the purchase and consumption of nutritious food alternatives through schools, stores, and community organizations; and
- increased physical activity.

Activities were divided into five phases, each with targeted foods and behaviours that were offered in a coordinated way throughout the community. Each phase lasted six to ten weeks, averaging eight weeks per phase. The schools implemented year-long curricula for grades three and four. The in-store component included stocking nutritious foods, shelf labels, signage, cooking demonstrations, and taste tests. Program costs were paid for by the research funder (American Diabetes Association). The program developed education resources, school curriculum, and procedure manuals. Educators and store management were initially provided with training.

Successes and challenges: Evaluation of the program found that there were improvements in participant knowledge levels and purchasing of nutritious foods. The program is transferable to other similar First Nations' settings with comparable cultural groups. Developing relationships that were ongoing throughout development, implementation, and evaluation with all stakeholders was an essential aspect of the program's success. The initial community engagement and exploration of resources and needs workshops helped the program be inclusive and responsive to all stakeholders' expectations and interests. The multiple points of intervention throughout the community also were necessary for promoting awareness and behaviour change. The retail stores felt supported in stocking the promoted foods because they saw the multiple community points of intervention as helping to influence sales of these foods.

During program development, there were challenges with building rapport and trust. As well, other community sectors could undermine the initiative by promoting foods or behaviours that were in opposition to program goals. It was also challenging to co-ordinate the community-wide promotion of specific foods—especially for the retail stores that had to ensure food availability during the promotion period. Difficulties with evaluation included:

- developing community-wide, multi-level evaluation tools; and
- the high cost of intensive data collection.

Sustainability and advice to others: Sustainability is dependent on capacity building. Retailers should recognize that the stocking and promotion of nutritious foods potentially entails reorganization of the store layout. It helps to integrate health promotion into the mission statement of the organization. To be effective, programs need to use multiple interventions that are offered community-wide. The program should be grounded in theoretically sound methods and strategies and meet local needs. Emphasizing active community participation and tailoring programs to communities promotes success and sustainability.

For more information, visit www.healthystores.org

Intervention materials are available on request from Dr. Joel Gittelsohn (jgittels@jhsph.edu).

GROCERY CART NUDGING INITIATIVE

This program was piloted in a small, locally owned, independent grocery store in a rural area of Saskatchewan. Public health staff were searching for strategies to encourage consumers to buy and eat more fruit and vegetables. Registered Dietitians from public health piloted an in-store program that gently nudged consumers to buy more produce. Program costs were paid by the Health Region.

Partners and collaborators:

- public health Registered Dietitians;
- an independent grocery store, the store's manager, and store staff; and
- researchers and dietetic interns from the University of Saskatchewan.

Program content and implementation: The program was designed by Registered Dietitians in consultation with public health management and the store's manager. The design was adapted from the ideas and research of a marketing professor at the New Mexico State University's College of Business. These ideas include nudging theory and the ecological approach to changing built environments. The research objective was to discover if placing signs in grocery carts would help nudge consumers to buy more fruit and vegetables. Two signs were created and hung on the inside back of grocery carts for two months. The information on the signs encouraged consumers to fill half of the grocery cart with fruit and vegetables. Researchers designed a survey, which the dietetic interns administered verbally to shoppers at the end of the two months. The store manager also monitored the purchasing of fresh produce to determine the program's effect on produce sales. Resources developed as a result of the project include signage and an evaluation report. Staff training was casual and ad hoc, with either the store manager or Registered Dietitians letting staff know what they were doing or when the surveyors would be at the store. The program could easily be transferred and used in other food retail environments that use grocery carts.

Successes and challenges: This was a very low cost and easily administered initiative with minimal time or training required of store staff. However, evaluation results did not find an increase in the sales of produce during the program. The verbally administered questionnaire gathered more qualitative information. The questionnaire's development and administration by university dietetic interns also lowered the projects costs. The store manager was very enthusiastic and wants to continue offering the program.

The initial design of the project was challenging as the initiative had to be low cost, deliver a short clear message, and look professional. Collaborative team work produced solutions to these barriers.

Sustainability and advice to others: The minimal cost and simple design of the initiative make it more sustainable. A nudging component could easily be integrated into a more comprehensive strategy, and combining it with other interventions might have improved the program's visibility and impact. Since smaller, independent, or locally owned stores may have more autonomy and community interest, they may be more willing to implement healthy eating initiatives and partner with local health professionals.

SCHOOL INITIATIVES

MANITOBA VEGETABLE AND FRUIT SCHOOL SNACK PROGRAM

When a survey found that fruit and vegetables were largely unavailable in Manitoba schools, the Child Nutrition Council of Manitoba was a natural fit to develop and administer a school-based fruit and vegetable snack program.

Partners and collaborators:

- local grocers;
- school divisions, teachers, students, and parents;
- public health nurses and Dietitians;
- primary care networks;
- local food producers;
- Dairy Farmers of Manitoba;
- Dietitians of Canada;
- First Nations elders and health staff;
- Manitoba government; and
- Health Canada.

Program content and implementation: An advisory council composed of the key stakeholders developed program goals and guidelines modeled after successfully implemented programs that targeted vulnerable populations. The strategy was to be flexible and encourage schools in urban, rural, and remote areas to develop programs based on their own requirements. The first phase focused on in-school snack programs and the last phase was focused on after-school programs. Program objectives included the following:

- increase knowledge and consumption of fruit and vegetables;
- build local capacity for developing and implementing an in-school fruit and vegetable snack program; and
- encourage the development of relationships with local fruit and vegetable producers.

School-based coordinators received initial training, including a training tool kit, program materials, and guidelines. Ongoing education included newsletters, site visits, and telephone support from the coordinator of the provincial program. The program funded 100% of the food costs and provided a small amount of start-up funding. The schools themselves developed presentations, surveys, cookbooks, and evaluation reports.

Successes and challenges: The design and methodology of the program has potential for use in other areas. The initiative's strength was allowing each school to develop a unique program that suited their needs. Funding the full cost of the food was regarded as crucial for success. Linking the program to curriculum and learning worked well. Local grocers provided considerable support to the schools, such as food discounts, notification of sales, and charge accounts. Student involvement was a key resulting feature of the vegetable and fruit delivery system with students getting involved in purchasing, storing, preparing, and trying new foods. Many students discovered and enjoyed foods they had never experienced. School staff and parents reported that new foods tasted through the program were making their way into lunches brought from home.

There were challenges when support from school staff or parents was lacking. Program implementation required an extensive time commitment from teachers and staff. Commitment was stronger where there was a school nutrition policy or an active school nutrition committee in advance of the program. The provincial coordinator helped to build capacity with site visits and provided consistency when there was a lot of staff or volunteer turnover.

Program sustainability and advice to others: Allowing schools flexibility in program design along with funding of food costs helped to promote sustainability. Training resources and plans, purchasing information, and evaluation components are important parts of program strategy. Ongoing support and education assists with building capacity. Regular contact with the programs through personal visits by the coordinator proved invaluable in establishing good communication channels and in understanding the unique circumstances at each site.

CREATING A HEALTHY SCHOOL NUTRITION ENVIRONMENT (CHSNE) AND FREGGIE AND THE FRUITS AND VEGGIES—MIX IT UP!

The Timiskaming Health Unit collaborated with local school districts on this multi-year bilingual project, which created awareness about healthy school environments and enthusiasm for healthy eating. An important aspect of the program was the Canadian Produce Marketing Association's Freggie and the Fruits and Veggies—Mix it up!—featuring a costumed mascot named Freggie that promoted eating fruits and vegetables. Freggie's popularity with the students resulted in them wanting to eat the foods (vegetables and fruit) Freggie was promoting. The overwhelming success of the Freggie branding led the advisory committee to promote Freggie outside the school environment in grocery stores, recreation centres, and at other community locations.

Partners and collaborators:

- CHSNE advisory committee (public health staff, including Registered Dietitians, health promoters, and management);
- The Canadian Produce Marketing Association; and
- grocery stores.

Program content and implementation: The advisory committee used a comprehensive health promotion framework, and identified grocery stores as key locations to create supportive environments for healthy eating. They also relied on point of purchase research. Graphic designers replicated the Freggie mascot into a high quality, digital image. Floor and window decals with Freggie's picture and the program's website were placed in grocery store windows and on the floor in the fresh and frozen produce department. The program's strategy was to have school-aged children recognize Freggie on the decals, leading them to ask their parents to buy produce. The program was expanded for Nutrition Month to include a Find Freggie contest; shoppers were encouraged to find Freggie and submit a ballot with his location for a prize. Program costs were covered by the health unit, a Heart and Stroke Foundation Kid Fit grant, and other grants. The floor and window decals were monitored and replaced as needed by the health unit staff. The grocery store management agreed to host the program and store staff were informed about the program, but the store was not involved in program development or implementation.

Successes and challenges: Success for the grocery program required children to associate with Freggie and understand the message the image was representing. This program piggy-backed on a school-based program and successfully extended it into the community. Since the program required minimal effort by the grocery stores, they willingly and readily agreed to participate.

An unexpected difficulty was that the floor decals deteriorated and had a shorter lifespan than expected. As a result, they will probably be replaced with window decals displayed on shelving and cabinet doors in the fresh and frozen produce departments.

Sustainability and advice to others: Working collaboratively with schools, community organizations, and grocers to develop comprehensive programs can boost sustainability. Implementing a grocery store program requires establishing and maintaining good relationships with grocery store staff and management. Take the opportunity to discuss program options with grocery stores while still in development, as they may want to contribute staff or other resources to the program. Programs should take advantage of pre-developed resources and contact organizations that have implemented similar programs.



6. COMMON THEMES EMERGING FROM THE KEY INFORMANT INTERVIEWS

In addition to details about their specific retail food initiative, key informants were asked about leadership, partnerships and collaboration, successes, challenges, and lessons learned. Common themes emerging from the interviews are described below.

SUPPORT FOR PROMOTING HEALTHY EATING IN THE RETAIL FOOD ENVIRONMENT

All key informants were supportive of the retail food environment as an important setting to promote and deliver healthy eating programs. Grocers reach a large portion of the population on a regular basis. Since purchasing decisions are often made in-store, point of purchase information programs have potential to positively modify consumer food choices.

THE SUCCESS OF PARTNERSHIPS

The programs described in Section 5 included diverse partners and collaborators. Most programs included government officials or a health professional, such as a Registered Dietitian. Key informants felt that these types of partnerships helped give the program credibility with consumers. Programs that included an evaluation component most often partnered with organizations that had the capacity to develop, collect, and analyze data, such as university or government researchers. Retailers augmented the evaluations with store sales data. Advisory committees provided guidance and direction and helped to ensure that program content and implementation was mutually agreed



upon and acceptable to all the stakeholders. Key informants emphasized that working co-operatively and maintaining good communication with the community and other stakeholders was an essential element for success.

THE NEED FOR FLEXIBILITY AND SIMPLICITY

Many key informants, and particularly those associated with successful programs, suggested designing programs that were adaptable and suitable for a variety of settings but also simple and easy to implement. Successful programs were low cost and readily acceptable to store management and staff. Taking advantage of resources created by other, similar projects reduces the time and cost of developing the project. Informants stressed the need for flexibility to develop programs that meet the unique needs of the store, school, or community.

THE CHALLENGE OF MEANINGFUL EVALUATION

Understanding a program's impact was seen as essential, because effective evaluations help to sustain programs that have positive outcomes. Many of the program contacts did not have the skill, capacity, or finances to formally evaluate their programs, however. Often they did not have outcome measures defining their success. Key informants expressed dissatisfaction with all levels of program evaluation. Some programs mentioned needing help with designing evaluation tools and data collection methods that would result in high quality data. Areas where evaluation could be improved include:

- assessing consumer knowledge and behaviour pre- and post-intervention;
- tracking purchasing and consumption of promoted or targeted foods; and
- assessing which factors or combination of factors led to the behaviour change.

GAPS IN PROGRAM SUPPORTS

Many key informants noted that their programs lacked the necessary supports during their development and implementation phases. These gaps included:

- ready-made resources that retailers could distribute;
- retailer education and support for providing and promoting healthy eating messages; and
- in-store Registered Dietitians and Nutritionists.

Key informants also identified a number of knowledge gaps in the following areas:

- the most effective behaviour change strategies and priority areas to focus on;
- consumer nutrition knowledge gaps and confusion;
- effective marketing that drives choice;
- economic disincentives to choosing nutritious foods;
- impact of using branding to influence parental purchasing; and
- program impact on the local economy.

Three reoccurring key elements to encourage sustainability were expressed by most stakeholders. The first was for programs to develop strong partnerships with stakeholders through collaboration and maintaining consistent communication to resolve barriers and develop solutions. This includes providing timely training and on-going support. The second was the need for flexibility to develop programs that meet store, school, or a community's unique needs and challenges. Thirdly developing effective evaluations to determine program efficacy will encourage sustainability of programs that have positive outcomes.

NORTHERN AND REMOTE COMMUNITIES: OPPORTUNITIES AND CHALLENGES

Stores in northern, rural, and remote communities have an especially important role in supporting healthy eating because they have a largely captive market. They are often the community's main meeting and social gathering hub and people may come to them several times a day. This is an ideal venue for influencing behaviour, especially when point of purchase information is offered by community members or store employees who speak the native language.

Key informants noted some challenges for food retail initiatives in these communities. A major challenge for northern and remote food retailers is high operating and fixed costs compared to southern retailers. These retailers must rely on costly air transportation to bring in perishable foods to their stores throughout the year. Remote retailers typically receive only one or two shipments a year of non-perishable foods, by barge, sealift, or on winter roads. This requires large warehousing space and high inventory costs. Annual resupply orders are placed months in advance, necessitating careful and extensive planning.

The quality of fresh produce flown in is not high. One potential solution to improve the consumption of vegetables and fruit is to promote frozen and canned products with little added salt or sugar. Communities are also exploring ways of promoting more local foods. Greenhouses are helping to extend the northern growing season.

Key informants suggested that retail stores in the north may be more willing to participate if they think their community will be supportive of the programs. This makes close consultation, as well as capacity-building, within the community essential. There is also a need for nutrition expertise to assist retailers with stocking nutritious foods in the northern and remote stores.

The unique nature of retail in northern and remote areas led key informants to identify the need to answer the following questions:

- What can be done to support retail access to country and traditional foods?
- What is the best strategy, duration and impact for northern or remote retail-based interventions?
- How does culture influence First Nations and Inuit purchasing and consumption decisions?
- How to best cultivate retail community partnerships and develop collaborative programs, especially with Aboriginal communities?

GROCERS' IDEAS ON WHAT THEY CAN DO TO SUPPORT HEALTHY EATING

Retailers provided a number of suggestions for healthy eating initiatives both in-store or within the school or community environments:

Develop industry-wide campaigns focusing on one message but using multiple intervention strategies.

It is both feasible and cost effective to work in collaboration with grocer associations and non-profit organizations, provincial/territorial governments, public health, and consumer groups to develop industry-wide campaigns that are focused on one clear message. Such an approach is considered more likely to be implemented and result in consumer behaviour change, due to the higher campaign visibility. The multiple intervention strategy allows stakeholders to tailor programs based on their specific business type.

Increase the amount and visibility of local nutritious foods. Grocery stores can increase the shelf space and visibility of nutritious local foods by developing policies that are conducive to local growers, increasing their stock of local produce, and displaying in-store marketing that highlights local farms and farmers.

Develop school retail partnerships. Key informants suggested that grocery stores could explore supporting a school program. Some suggestions included offering discounts and charge accounts, and providing food information. In turn, the school could consider purchasing food from the grocery store when it cannot be obtained from a local producer.

Build food retail capacity to provide programs through partnerships. To increase retail stores' capacity to provide in-store healthy eating programming, foster partnerships with public health and community health professionals.

Offer low cost, simple, and easily transferable programs using pre-developed resources. Programs that are low cost, easy and simple to execute, and workable in a variety of store settings are more likely to be implemented and sustained. Retailers indicated a willingness and interest in distributing pre-developed resources or displaying pre-developed signage.

Smaller, independent, or locally owned stores may be more autonomous, community minded, and interested in partnerships with local health professionals, making it easier to implement healthy eating initiatives.

Include grocery store initiatives as part of community-wide health promotion campaigns. Key informants noted that food retailers are more likely to stock and promote nutritious foods when the foods being promoted are a part of a larger, community-wide initiative. The increased program visibility and community support improves sales of the promoted foods. This increases the likelihood the store will restock the foods and sustain the program.

Provide in-store health services, which can include Registered Dietitians. Larger supermarkets and superstores are offering an increasingly diverse array of non-traditional food items and services to appeal to consumers, including health services such as pharmacies. Offering in-store healthy eating programs that are developed and staffed by the company's Registered Dietitian compliments these new in-store programs and is often seen as a way to attract customers.



7. SUMMARY

Based on key informant experience and available evidence, the following could aid program development, implementation, and evaluation.

- Initiate and design programs that meet community needs and garner wide-spread stakeholder support. Build alliances and collaborate with partners. Stakeholders and partners often include:
 - federal/provincial/territorial/regional government staff from health and agriculture;
 - community leaders and organizations;
 - national or provincial/territorial non-governmental organizations;
 - schools;
 - farmers;
 - retailers from both traditional and alternate food sectors; and
 - university researchers.
- Assess community, school, and food retail strengths, resources, and needs when forming program goals and activities.
- Balance the wants and needs of communities and stakeholders with evidence-supported, behaviour change theories and interventions in designing the program.
- Build flexibility into program development to meet the unique needs of communities and stakeholders.
- Use clear, simple, focused, and targeted messages that can be delivered using multiple interventions. The multiple intervention strategy allows stakeholders and their partners to tailor programs based on their specific business type or unique community needs.
- Use simple, easily implemented, and low cost programs to increase stakeholder willingness to implement and promote sustainability.

- Partner with research experts to design and implement the evaluation of programs and analyze results.
- Build communication plans, training, and on-going stakeholder and staff support and education into program strategy.
- Use ready-made materials and resources to simplify program development and implementation and reduce associated costs.

Both the literature review and input from key informants suggest including evaluation of both the process and the outcomes of food retail interventions would be valuable. As the food retail environment changes, gathering evidence on new service delivery models that provide food directly to the consumer, such as mobile produce vending that goes to schools or neighbourhoods would be beneficial. This could include examining the cost of food from alternative retailers such as farmers' markets or community-supported agriculture. There is also much to be learned about how personal electronic devices such as phones and tablets could influence food shopping decisions and behaviour.

APPENDIX I: METHODOLOGY FOR THE LITERATURE SEARCH

The goal of the literature synthesis was to identify knowledge, programs, and gaps in research related to current Canadian and international food retail markets or environments and how this sector could support healthy eating. It focused on food retail trends, consumer food and eating trends, and food retail programs that support healthy eating. Front-of-pack labelling programs, private labels, and restaurant initiatives were outside the scope of the review.

DATABASES AND KEY WORDS

The search was conducted on the indexed databases MEDLINE/Pubmed, EMBASE, CINAHL, Cochrane Library, and ERIC using these key words and phrases:

grocery store, convenience, corner, supermarket, grocer, grocery, retail, catering, urban, rural, northern, isolated, healthy eating challenges, nutrition, education programs Canada, United States, United Kingdom, Australia, Europe, Aboriginal, vulnerable populations, at-risk populations, consumer, in-store education, drug store, pharmacy, healthy eating programs, food industry, health promotion, incentive programs, loyalty programs, healthy choices, food habits, point of purchase nutrition information, in-store Dietitian, innovative, food skills programs, each province and territory, Canadian retail formats, farmers markets, health promotion, farm to school, trends or changes or future and food environments or health promotion, consumer shopping trends, consumer food purchasing trends and differences or low income or culture or economic groups, ready to go foods and purchasing and nutrition impact or nutrition affect or food intake, independent grocers and challenges.

INCLUSION CRITERIA

Inclusion criteria for the search included studies published in English and French from 1997 to 2012, with exceptions made for pertinent articles.

APPENDIX II: FOOD RETAIL STORE FORMAT DEFINITIONS

Traditional Stores	Attributes
Supermarket	A full line grocery store with annual sales over \$2 million
Superstore	A supermarket over 30,000 square feet and offers non-food items, specialty departments, and other service centers.
Conventional store	A supermarket less than 30,000 square feet
Grocery store	A retail store less than 5,000 square feet selling perishable and non-perishable items
Specialty store	A store specializing in a specific food category
Non-Traditional Stores	Attributes
Super Center	A supermarket greater than 30,000 square feet that sells an expanded selection of non-food items
Mass Merchandiser	A retail store that traditionally has sold only general merchandise but now also sells food products
Wholesale Club	A retail/wholesale store approximately 150,000 square feet that requires a paid membership. Merchandise and groceries are sold in bulk.
Drug store	Stores that sell prescription based medicines as well as general merchandise, consumables, and seasonal items
Convenience /Gas store	A retail store less than 2,400 square feet that sells a limited variety of high convenience items
Hypermarket	A combined supermarket and discount store greater than 200,000 square feet

Source: Canadian Grocer as cited in The Canadian Food Retail Sector ⁽¹³⁾

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