An introduction to the healthy corner store intervention model in Canada

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ABSTRACT

SETTING: The majority of Canadians' food acquisition occurs in retail stores. Retail science has become increasingly sophisticated in demonstrating how consumer environments influence population-level diet quality and health status. The retail food environment literature is new but growing rapidly in Canada, and there is a relative paucity of evidence from intervention research implemented in Canada.

INTERVENTION: The healthy corner store model is a comprehensive complex population health intervention in small retail stores, intended to transform an existing business model to a health-promoting one through intersectoral collaboration. Healthy corner store interventions typically involve conversions of existing stores with the participation of health, community, and business sector partners, addressing business fundamentals, merchandising, and consumer demand.

OUTCOMES: This article introduces pioneering experiences with the healthy corner store intervention in Canada. First, we offer a brief overview of the state of evidence within and outside Canada. Second, we discuss three urban and one rural healthy corner store initiatives, led through partnerships among community food security organizations, public health units, academics, and business partners, in Manitoba, Ontario, and Newfoundland and Labrador. Third, we synthesize the promising practices from these local examples, including aspects of both intervention science (e.g., refinements in measuring the food environment) and community-based practice (e.g., dealing with unhealthy food items and economic impact for the retailer).

IMPLICATIONS: This article will synthesize practical experiences with healthy corner stores in Canada. It offers a baseline assessment of promising aspects of this intervention for health and health equity, and identifies opportunities to strengthen both science and practice in this area of retail food environment work.

KEY WORDS: Food supply; diet, food, and nutrition; environment and public health; health promotion

La traduction du résumé se trouve à la fin de l'article.

Can J Public Health 2017;108(3):e320-e324 doi: 10.17269/CJPH.108.5801

he retail food environment is a prominent part of food systems affecting population health.^{1–5} Retail food stores are fixed location commercial outlets where consumers purchase food and beverage merchandise for personal or household consumption.⁶ In 2012, Canadians spent 72 cents of every household food dollar in retail stores; a gradient exists whereby the lower the income quintile, the greater the proportion of food spending in stores, in comparison to restaurants.^{6,7} Retail science has become increasingly sophisticated, but the application of this evidence is recent in public health. We refer readers seeking a concise overview of retail food environment research in Canada to the recent CJPH Supplement. 8,9 There is increasing interest in retail food environment interventions to support healthier diets and nutritional well-being, but a relative paucity of intervention

HEALTHY CORNER STORES: A HEALTH-PROMOTING INTERVENTION MODEL FOR SMALL RETAIL FOOD BUSINESSES

The healthy corner store model is a complex population health intervention in small retail food stores, intended to transform an existing business model to a health-promoting one. 10 The model is made up of three elements: 1) Business fundamentals, ensuring sound retail business operations, and capacity building for effective retail management practices, including store owner/manager/staff supports; 2) Merchandising, to increase availability and appeal of healthier foods and beverages and discourage less healthy products, including selection, placement, pricing, promotions at point-of-sale, and branding; and 3) Promoting consumer demand, including public engagement and nutrition promotion.

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Acknowledgements: This work was supported in part by Health Canada's Office of Nutrition Policy and Promotion [MOA #4500327812 to NM, CM and KJ]; the Public Health Agency of Canada [MOA #4500308919 to BC, LM and CM]; the Canadian Institutes of Health Research [FRN PG1-144782 to CM, LM and BC]; and the Canadian Cancer Society [FRN 704744 to LM].

Conflict of Interest: None to declare.

In the United States, where the intervention originated, policy-¹¹ and practitioner-¹⁰ oriented resources as well as population health literature^{12–16} have emerged in the last five years, catalyzed by the US Federal Healthy Food Financing Initiative.¹⁷ Interventions have been led intersectorally by public health, community food security, and economic development practitioners, and require a dedicated investment by store owners. Funding models range from purely publicly-funded to social enterprise formats, but in most cases comprise a blend of in-kind investments by not-for-profit actors into a for-profit business, to support "conversion" of the business into one that is more viable, and health-promoting, broadly defined. Most have been implemented in urban settings;¹⁶ related interventions in remote Indigenous community stores in Canada¹⁸ and Australia¹⁹ are also instructive.

The evidence suggests that corner store interventions can improve food availability, ^{12,16,20} and garner strong intersectoral and community support. ^{10,12,16} Related mixed retail interventions (not explicitly "healthy corner stores"), including availability, pricing and education, have increased healthy food purchasing and consumption. ^{18,19} Reviews of corner store research suggest areas for methodological improvement; ^{12,16} newer intervention studies ^{14,15,19,21} have prioritized causal evaluation, and use of objective sales data to measure impact. Of note, financial performance indicators have rarely been measured in public health retail studies, despite their importance for business. ²² Retailers usually find the model feasible – but good baseline business viability and adequate store supports are critical for success. ^{13,14,23,24}

FOUR HEALTHY CORNER STORE INTERVENTIONS IN CANADA

The following describes three urban and one rural healthy corner store initiatives, implemented/evaluated in Manitoba, Ontario, and Newfoundland and Labrador (NL). The examples in this article present diverse experiences from our network. Each example was initially authored by a practitioner from the jurisdiction based on a set of reflection questions, then the lead author worked iteratively with each co-author to refine the whole. Our aim is to offer a baseline assessment of promising aspects of this intervention for health and health equity, and reflect upon ways to strengthen both science and practice.

Urban Manitoba: Healthy eating in Winnipeg's North End

Food Matters Manitoba (FMM) is a non-profit community food security organization that works across Manitoba. It has led the North End Healthy Eating (NEHE) project, a pilot healthy corner store intervention since 2013, as part of FMM's larger *Our Food Our Health Our Culture* initiative funded by the Public Health Agency of Canada's Innovation Strategy. An earlier community food system assessment by FMM in 2010 had also identified poor access to healthy food in Winnipeg's North End.

Since 2013, FMM has employed one staff member, working 10 hours/week on the project outside staff time, with an approximate annual budget of \$20,000. In year one, FMM conducted community consultations to discuss program design. Fifteen stores were identified in these consultations as favoured and trusted in the community – one large-scale grocery chain and the rest, small corner stores or specialty shops (e.g., butcher shop).

Of these, four agreed to participate; one store opted out after a change in management. In year two, FMM staff continued to gather information on best practices from other jurisdictions, implemented merchandising to encourage the purchase of healthier food choices, and established weekly site visits to build trust with store owners.

NEHE is comprised of four components, with some business fundamentals but an emphasis on merchandising and communication: 1) joint purchasing of infrastructure for storeowners to promote and stock healthier foods (including shelving and displays, sourced and installed by FMM staff); 2) in-store shelf signs advertising healthy food choices to consumers; 3) free recipe cards, available in-store and associated with the identified healthy items; and 4) promotion of nutrition, healthy eating, and the NEHE project to the community (including signage for the stores, in-store food demos, coupons, community workshops, and an NEHE guide distributed throughout the community).

To date, FMM has undertaken some "in-house" evaluation, which has been challenging for an under-resourced community organization, and reliable data is a concern. FMM had explored electronic point-of-sale systems to measure purchasing, but encountered major logistical challenges in securing a provider. As is the case for many small stores in the convenience sector, stores in the pilot did not keep robust inventory measurements, and in the absence of a point-of-sale system, FMM relied on store owner recall to measure sales impact. Community members were hired to do customer intercept surveys, but only limited resources were available to train and support the community research assistants, and the resulting data have been difficult to interpret.

Year three has highlighted the strong positive relationships fostered between FMM and store owners – who remain keen to market healthier foods. FMM continues to engage the community and support participating stores to test new merchandising options, such as a new NEHE food zone display. FMM has identified the need for additional investment and the future of the program is uncertain; support from public health, experienced evaluators, and business consultants may be potential avenues for strengthening evaluation and outcomes, and ensuring program sustainability.

Urban Ontario: The Toronto Food Strategy and food access in low-income communities

Toronto Public Health's Food Strategy team initiated exploratory work on healthy corner stores in 2013. Short-term funding, nested within the longer-term mandate of the Food Strategy, catalyzed design charrettes with residents and a practitioner workshop through which the parameters of the intervention began to emerge. Team members attended industry events and engaged retail experts in Canada and the US to learn more about typical practice and recent industry innovations. This prompted an emphasis on establishing relationships with manufacturers, distributors and produce suppliers.

Other formative research included a community food environment assessment using environmental health and other municipal datasets; working with municipal and academic partners to develop a spatial assessment of retail food sources city-wide; and cross-sectional consumer food environment assessments in

potential intervention communities, using the Nutrition Environment Measures Survey (NEMS) instrument, adapted for Toronto.²⁵ The assessments enabled follow-up conversations with store owners in three neighbourhoods.

In 2014, the Food Strategy partnered with two academics to secure funds from the Public Health Agency of Canada to evaluate the impact of retail food environment interventions on the dietary intake of residents in two pilot communities, including a healthy corner store intervention and a mobile produce vending market. The overall vision for the corner store intervention was to implement a small-scale pilot at one store location, in order to test a toolkit of solutions that could be developed further to enable store owners to sell healthier items profitably. The core of the intervention was strengthening business fundamentals, directed towards lowering business risk for "early adopter" retailers, particularly food system-related change management support, access to new equipment, and connecting to suppliers; merchandising and demand elements were then added over time. The intervention was also an opportunity to pilot methods for point-of-sale data analysis.

The corner store intervention site was located on the main floor of a low-income high-rise apartment tower in East Scarborough, a community with a high proportion of seniors and newcomers. The store owner and public health staff took on minor infrastructure renovations themselves, installing refurbished fridges for fresh produce, and public health helped to broker more substantial repairs by the building landlord. A marketing firm was engaged to develop a "Grab Some Good" branding campaign. The team also explored in-store prepared foods (e.g., pre-cut fresh fruit cups) for which store food safety requirements and equipment were adequate, but wastage, pricing and labour proved prohibitive.

Early results of the evaluation indicated that the intervention did not affect measures of dietary intake or quality for residents, assessed using the National Cancer Institutes' Automated Self-Administered 24-hour dietary recall instrument (ASA24), in comparison to a control community. However, the intervention permitted the store to sell new fresh produce as well as to test the market for healthier prepared foods. The store also established a new revenue-generating mechanism, becoming the fruit supplier for the building landlord's school-day healthy snack program.

Urban Ontario: Strengthening food access through **Ottawa's Good Food Corner Stores initiative**

The Good Food Corner Stores initiative has been led by Ottawa Public Health (OPH) since 2015 with the aim to increase availability of fresh produce and staple foods at corner stores in low-income neighbourhoods where residents have economic and geographic barriers to accessing food. Formative research included analysis of data from the Ottawa Neighbourhood Study and resident and corner store owner surveys in selected vulnerable neighbourhoods. OPH also engaged stakeholders in business, community health, and food security sectors, and a student social enterprise group, leading to establishment of a steering committee.

Good Food Corner Stores defines minimum expectations in terms of business fundamentals and some merchandising aspects, to encourage new adopters and to recognize stores that are already meeting these criteria. The minimum parameters are: 1) Sell a minimum variety of nutritious foods, including fresh vegetables and fruit, whole grain products, milk and alternatives, and meat alternatives at an affordable price; 2) Promote the sale of nutritious foods through in-store marketing and front of store displays; 3) Maintain a clean and attractive premise; and 4) Adhere to all food safety and tobacco vending legislation. All participating stores have free access to marketing materials; advertising and social media promotion; food handler training; and hydro rebates (e.g., for upgraded lighting, fridges).

Three intervention models are being trialed within the program: 1) Sprout, a student-designed food merchandising intervention that provides support and fresh food inventory on a consignment basis (student-led with public health assistance); 2) Deep Roots Food Hub, a distribution of locally produced food to rural Ottawa corner stores (community-led with public health support); and 3) store owners implementing changes on their own with support from OPH and partners (public health-led). One pilot store is currently offering Sprout, three stores in a rural region of Ottawa are planned to launch with Deep Roots in 2016/2017, and outreach is underway to recruit 3-5 additional pilot stores. OPH is also moving forward to recognize stores that already meet the criteria of a Good Food Corner Store.

Funding for the intervention comes from in-kind contributions from OPH and partners, fundraising by the student social enterprise group to secure private sector donations, and a grant for a community group from the Community Foundation of Ottawa. OPH has designed but not yet implemented an evaluation; early risks have been identified and mitigated by offering in-kind incentives to store owners and by drafting terms of reference that define the roles and expectations for each partner. Like-minded business professionals have provided expertise in fresh produce inventory management, business fundamentals, persuading store owners to get involved, and collecting data at the store level.

Rural NL: Quality food access in retail stores for rural and remote communities

In 2015, with funding from Health Canada, a partnership was established between Eastern Health, Memorial University through the Food Policy Lab, and Food First NL to pilot a healthy corner store intervention in NL. The aim of the project, Healthy Corner Stores NL, was to develop and refine methods for measuring and intervening in rural and remote food environments. Formative work was academic-led, including the construction of a provincewide inventory of retail food sources from existing provincial government environmental health data and other publicly available business information, and descriptive spatial analysis. Seventy-eight rural stores on the Avalon Peninsula were sampled for an in-depth consumer environment assessment using an adapted NEMS tool.

An open nomination process was held to identify a pilot store, and a multistakeholder charrette and companion public engagement workshop were held to engage a range of community, municipal, health, and business sector actors in intervention design. The pilot store is in the town of Branch, 65 km from the nearest full-service grocery store. In addition to typical convenience items such as snack foods, sugar-sweetened beverages, tobacco and lottery, the store offers staple shelf-stable items; select seasonal vegetables (cabbage, carrot, onion); an extensive range of auto,

home renovation, and hunting and fishing supplies; and household personal goods and cleaning supplies. The store operates the sole gas station in the community, manages the post office, and runs a restaurant out of the second floor.

The Healthy Corner Stores NL intervention included some business fundamentals and an emphasis on merchandising. Intervention components included: 1) reorganization of store layout to place healthier options in more desirable locations (and reduce visibility of less healthy items), and creation of distinct store sections to improve customer experience; 2) renovation of the front counter to improve function and incorporate a built-in deli cooler to display promoted items; 3) development of healthier instore prepared "grab-and-go" foods; and 4) working with a design firm to develop a branding campaign, "Pick Me Up". Academics collaborating with dietitians developed nutrition training resources to guide implementation. A loyalty card system was tested but proved impractical for residents and store staff; moreover, data quality was poor in the absence of a linked point-of-sale system.

Three important outcomes have been: a shift towards a spirit of experimentation by store owners and staff; the demonstration of baseline viability and rapid growth of multi-stakeholder support and interest; and refinement of measures and methods for food environment assessment and intervention evaluation.

SUMMARY OF PROMISING PRACTICES

This article highlights four promising practices for those contemplating interventions in the retail food environment. First, all teams carried out continuous environmental scanning, and engaged diverse stakeholders throughout. Academic and public health partners contributed to research and evaluation methodology; government partners convened diverse sectors and reduced business risks (e.g., infrastructure supports and program guidelines); and business partners brought innovation management and merchandising expertise.

Second, collaboration between researchers and practitioners enabled teams to measure the food environment in ways that addressed the evolving state of the science alongside implementing the intervention. When methodological developments are pursued in non-academic settings, they may not always be shared in peerreviewed literature, yet such knowledge exchange is highly important for advancing the evidence base.

Third, all teams considered the potential for healthier eating across the full spectrum of foods – i.e., both healthy and unhealthy parts of the "food choice architecture". Each team worked with fresh perishable foods such as fruits and vegetables, but also pursued feasibility testing with prepackaged/prepared foods, so that "foods to limit" (as per Canada's Food Guide) could be replaced with more nutritious options. Reducing prominence (availability and merchandising) of unhealthy food in stores is an ongoing challenge for public health intervention, that can conflict with actual or presumed business aims. Intervention research to date has almost exclusively focused on healthy/fresh food access and this has created a major gap in the evidence base.

Fourth, all teams took the economic impact of their intervention as a priority. This is critical for smaller jurisdictions and rural areas, where small stores play an outsized role in social networks and local economic development,²⁶ arguably equally important to dietary behaviours in terms of health equity.

Limitations and strengths

In this article, we have explored diverse urban and rural interventions defined by their implementers as healthy corner stores, to highlight the possibilities for practitioners across Canada. We took a narrative approach to reporting the intervention experiences, rather than primary data collection; therefore, the findings synthesized here reflect the state of the practice of healthy corner stores in Canada, and are not generalizable to all potential experiences.

The main strength of this article is in capturing variation in how similar interventions align with local needs and contexts. We have tried to avoid premature leaps in assessing impact, while identifying what was promising from a practice standpoint. The healthy corner store model in Canada has reminded us that if we are going to adopt whole-of-society and whole-of-government interventions in population health, we need to measure diverse socially important impacts, particularly microeconomic ones. This article illustrates how complex interventions are typically implemented incompletely amid resource constraints, but measuring adaptations can also be useful in assessing potential for longer-term change.

CONCLUSION

Healthy corner store intervention elements (business fundamentals, merchandising, and building consumer demand) can be combined in different ways to shift food environments and diets - and to strengthen businesses to better meet community needs. The take-away for practitioners exploring the intervention as a health promotion solution is the notion of "conscious prototyping", a term from the popular business literature. Prototyping in this case means embracing practical testing; continuous improvement of processes, tools, measures, and engagement while maintaining the core of the intervention; and analyzing intervention adaptations, over the course implementing the intervention. Some of these practices are already central to public health, but bear emphasis in an era when we are advancing complex environmental transformations in communities.

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Received: July 26, 2016 Accepted: March 3, 2017

RÉSUMÉ

LIEU: La majorité des Canadiens achètent de la nourriture dans des magasins de détail. La science du commerce de détail parvient à démontrer de plus en plus habilement que les environnements de consommation influencent la qualité de l'alimentation et l'état de santé des populations. Au Canada, la littérature sur les environnements alimentaires de vente au détail est jeune; bien qu'elle se développe rapidement, relativement peu de données probantes issues de la recherche d'intervention sont mises en application au pays.

INTERVENTION: Le modèle des « dépanneurs-santé », une intervention en santé des populations à la fois globale et complexe appliquée dans de petits magasins de détail, vise à transformer par la collaboration intersectorielle le modèle d'entreprise existant en un modèle qui favorise la santé. L'intervention consiste généralement à convertir des magasins existants avec l'aide de partenaires du milieu de la santé, du milieu associatif et du monde des affaires, en tenant compte des principes fondamentaux du commerce, du marchandisage et de la demande des consommateurs.

RÉSULTATS: Nous présentons ici les expériences pionnières de l'intervention des dépanneurs-santé au Canada. Nous décrivons d'abord brièvement l'état des connaissances au Canada et à l'étranger. Nous analysons ensuite trois initiatives urbaines et une initiative rurale de dépanneurs-santé, menées au Manitoba, en Ontario, et à Terre-Neuve-et-Labrador à la faveur de partenariats entre des associations locales pour la sécurité alimentaire, des bureaux de santé publique, des universitaires et des entreprises. Enfin, nous résumons les pratiques prometteuses de ces exemples locaux, tant du point de vue scientifique (p. ex. les améliorations apportées à la mesure de l'environnement alimentaire) que sur le terrain (p. ex. quoi faire avec les produits alimentaires malsains et comment composer avec les retombées économiques pour le détaillant).

CONSÉQUENCES : Nous faisons ici la synthèse d'expériences pratiques d'établissement de dépanneurs-santé au Canada. Nous offrons une évaluation préliminaire des aspects prometteurs de cette intervention sur le plan de la santé et de l'équité en santé, et nous cernons les possibilités de renforcer à la fois la science et la pratique du travail sur les environnements alimentaires de vente au détail.

MOTS CLÉS : approvisionnement en nourriture; alimentation et nutrition; environnement et santé publique; promotion de la santé