

HEALTHY RETAIL INTERVENTION LITERATURE REVIEW

SUMMARY OF FINDINGS

METHODS

A search of peer-reviewed and grey literature was conducted to summarize the evidence for retail interventions, particularly with regard to impact on purchasing behaviors among consumers. Articles were retrieved by searching the SNAP-Ed Toolkit and PubMed database to identify studies of retail interventions. Needs assessments, modeling studies, and clinical interventions were excluded from review. In addition, multiple publications for the same intervention were excluded if they did not contribute new information that was relevant to the review. The titles and abstracts of articles retrieved were reviewed to determine their relevance to the literature review. Included studies were reviewed in entirety to extract key information about the study design and outcomes, as summarized in the literature review matrix.

Table 1. Search terms used to retrieve articles from PubMed and SNAP-Ed Toolkit.

	<i>PubMed</i>	<i>SNAP-Ed Toolkit</i>
<i>Search Terms</i>	"grocery store" "grocery store AND healthy eating" "supermarket AND healthy eating" "retail AND healthy food AND sales"	<i>Target Behavior:</i> Healthy Eating <i>Intervention Type:</i> PSE Change, Social Marketing <i>Setting:</i> Retail <i>Classification:</i> Research Tested

KEY FINDINGS

ABOUT

Twenty-four articles were included in the literature review, including 6 systematic reviews¹⁻⁶, 5 experimental studies⁷⁻¹¹, 6 quasi-experimental studies¹²⁻¹⁷, and 7 observational studies¹⁸⁻²⁴. Twenty-one of the articles included intervention components taking place in supermarket or grocery store settings. Electronic sales data was collected as an objective measure of purchasing behaviors in studies described by six of the included articles^{5,7,10,13-15}.

The literature reviewed included diverse healthy retail intervention components, including:

- Nutrition education/recipes/information materials (non-interactive)
- Nutrition education/food demonstrations/tastings (interactive)
- Skill-building training/resources (e.g., budgeting)

- Product promotion/advertising
- Store tours
- Increased stocking/availability of healthy foods
- Healthy checkout aisles
- Social marketing/media campaign
- Healthy food displays
- Product placement improvements
- Pricing promotions/coupons (for consumers)
- Monetary incentives (for stores)
- Training/resources for store staff
- Opening new grocery stores/supermarkets
- Online nutrition resources (accountability forum, access to a dietitian)
- Purchasing refrigerators/freezers/storage units for stocking healthy foods

The purpose of this literature review was to assess the evidence to support healthy retail interventions and to identify intervention strategies that are associated with improved purchasing behaviors, psychosocial factors, and store environments. There is evidence to suggest that access alone to healthy food items may not be enough to impact health behaviors among consumers. A systematic review of studies assessing the impact of new grocery stores and supermarkets being opened did not find sufficient evidence to suggest that the presence of the store alone was associated with positive health outcomes.¹ Additional intervention components may be needed to achieve positive consumer outcomes.

INTERVENTION OUTCOMES

INCREASING SALES/IMPROVING PURCHASING BEHAVIORS

Interventions that combine supply-and-demand strategies appear to be effective at increasing sales of healthy food items and encouraging consumers to select healthier products. One systematic review of supermarket and grocery store interventions found sufficient evidence to indicate the effectiveness of interventions using a combination of point-of-purchase, promotion, and advertising.² Five out of the seven studies reviewed that tracked sales data found that sales of featured healthy items increased. Another systematic review focused on assessing small-store interventions found that increasing stocking and access to healthy food items and encouraging healthy eating through social marketing were associated with increased sales of promoted healthy food items.³

Product placement and promotion strategies also have been associated with increased sales of promoted items. Results from a cluster-randomized controlled trial using product placement and promotion strategies found that sales increased significantly for featured healthy food items.⁹ A quasi-experimental study based in corner stores found that product promotion and placement strategies significantly increased stocking and sales of promoted healthy food items at intervention stores compared to comparison stores, according to sales recall data.¹⁶ Similarly, results from an observational

study indicated that placement and promotion strategies, specifically adding a point-of-purchase kiosk featuring fruits, vegetables, and healthy snacks with free samples, resulted in increased sales of featured items.²¹

Other studies have indicated that pricing promotions are associated with increased sales of healthy food items. One systematic review found sufficient evidence to suggest that short-term pricing interventions in grocery stores and supermarkets may lead to increased sales of healthy items.⁴ This review also found that there was insufficient evidence to suggest that other types of point-of-purchase interventions are effective at increasing sales or improving diet. Supporting these findings, a randomized controlled trial found that consumers who received discounted prices on fruits and vegetables at supermarkets significantly increased their purchases of fruits and vegetables.⁷ However, additional analyses of the data from this study found intervention groups who received a price reduction were about twice as likely to increase the proportion of their fruit and vegetable purchases at study supermarkets compared to groups that did not receive price reductions.¹⁰ This means that shoppers shifted their purchases away from other stores, making it difficult to quantify overall increases in fruit and vegetable purchases.

Use of product health and nutrition information may not be effective for influencing sales. One systematic review looked at experimental studies of healthy retail interventions that used product health information to influence consumer purchases.⁶ Several studies included in the review found no significant changes in purchasing behaviors when product health information was available to consumers. This review found that purchasing behaviors were more likely to change when interventions took place over a longer period of time, included nutrition messaging about the absence of unhealthy nutrients, or included additional intervention components.

However, some studies suggest that social marketing and messaging can influence purchasing behaviors. An experimental study conducted in supermarkets found that health goal priming (i.e., exposing consumers to messaging about nutrition/health consciousness) can be an effective method for reducing purchases of unhealthy food items in grocery stores.¹¹ In this study, participants were given healthy recipes with a header that either had a health prime (e.g., “Good for your figure” and the calories for the recipe) or was neutral (e.g., “Try it out”). The study found that participants who were overweight and obese purchased 75% fewer unhealthy snacks when primed compared to overweight and obese participants who were not primed. Similarly, a quasi-experimental study using social marketing to establish social norms for fruit and vegetable purchases found that average produce spending per person per day increased 16% at intervention stores relative to control stores.¹³ A similar study using floor decals with arrows leading to the produce section also found that average produce spending per person per day increased after the intervention.¹⁴

Similarly, a quasi-experimental study found that sales of unhealthy beverages decreased at intervention stores relative to comparison stores following a policy-focused, multicomponent community social marketing campaign.¹⁵ Another observational study of a media-based educational intervention found that improved purchasing behaviors were more likely to be observed for females

and older adults, suggesting that some demographic groups may be more receptive to social media campaigns.¹⁹

KNOWLEDGE & PSYCHOSOCIAL FACTORS

Studies assessing changes in knowledge and psychosocial factors indicate that some healthy retail interventions may be effective. A quasi-experimental study using product promotion, social marketing, and cooking demonstrations/taste-tests in grocery stores found a statistically significant change in knowledge and increase in healthy food purchasing among respondents in intervention communities compared to respondents in comparison communities.¹² This suggests that changes in psychosocial factors such as knowledge and purchasing of healthy foods can be associated with retail interventions. In contrast, a different quasi-experimental study of an intervention using product promotion and placement strategies in corner stores did not find statistically significant differences in psychosocial factors (e.g., nutrition knowledge, healthy eating self-efficacy) when comparing intervention and comparison participants.¹⁷ However, the study also found that participants' exposure to the intervention components was low, and shoppers with the highest exposure dose appeared to trend toward more healthy food intentions, though this finding was not statistically significant. These results suggest that the dose of intervention and the specific intervention strategies used may be important for influencing psychosocial factors.

A systematic review looked at whether nutrition knowledge and behaviors could be positively influenced by conducting grocery store/supermarket tours.⁵ Most studies that measured knowledge found increases in nutrition knowledge after the store tours, and positive health-related behavior outcomes (including participant intentions, attitudes, dietary behaviors, and purchasing behaviors) were reported by all studies which measured behavior changes. Grocery store tours may be associated with positive short-term improvements in nutrition knowledge and behaviors.

IMPROVED STORE ENVIRONMENT

An observational study was conducted to assess the prevalence and patterns of price promotions for foods and beverages in a national sample of food stores.²³ Data on price promotions were collected for 44 food and beverage items, including more-healthy and less-healthy items. The study found that the prevalence of price promotions was higher for supermarkets (13.4%), followed by grocery stores (4.5%), and was lowest for smaller/limited-service stores (2.6%). Promoted products tended to be less healthy and in larger package sizes. The prevalence of price promotions for fresh fruits and vegetables was lower than the average for food and beverage items. Given the evidence that pricing interventions may influence purchasing behaviors,^{4,7} pricing interventions to promote healthy food items are needed, particularly given that pricing promotions are more likely to focus on unhealthy food items.

Improvements to small store environments have been observed in interventions that included staff training and monetary incentives for store owners, as well as interventions that generated community support for healthy store improvements. For example, a process evaluation of a healthy corner store intervention found that stores successfully stocked healthy food items, began stocking healthy food items they had not sold before, and displayed social marketing materials.¹⁸ These changes were

observed in stores that received support for increasing availability of healthy foods, monetary incentives, and training/resources to improve store owner skills for selecting and preparing healthy foods for point-of-purchase promotions. An observational study found that community support generated by an "Adopt-a-Bodega" program, which organized community groups to visit small corner stores to encourage stocking of healthy items, resulted in increased stocking of healthy food items.²⁰ This study concluded that community support is key for getting smaller stores to stock healthy food items; without demand stores are resistant to make changes.

Improvements to large store environments have also been observed in healthy retail interventions, though not all intervention components may be sustainable for large stores. A formative evaluation of a multi-pronged intervention, including improved stocking of healthy foods and healthy checkout aisles at large chain stores and neighborhood food outlets in low-income, "Health Eating, Active Communities" in California found that improvements had been made to healthy food stocking and establishment of healthy checkout aisles.²⁴ Similarly, a process evaluation of a multi-pronged healthy retail intervention examined the feasibility of implementing social marketing, product promotion, taste-tests, increased product stocking, and pricing promotions in a large supermarket.²² This study found that stocking and advertising of healthy food items was able to be implemented with high fidelity. However, other components of the intervention varied in the success of their implementation. The authors concluded that intervention strategies should be customized to the store and community, e.g., focusing on commonly purchased items and gathering community input to guide behavioral and environmental changes.

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