



UNICEF NBIM initiative on nutrition and children's rights in the food retail sector

Evidence review of food retailer actions
to support healthier supermarket food
environments for children

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Executive summary

Background

Unhealthy diets and obesity are the leading causes of death and disability worldwide, and represent an urgent public health challenge. The main driver of unhealthy diets and obesity is unhealthy food environments that are dominated by the supply, distribution and marketing of processed, packaged foods that are often high in added sugar, sodium, harmful fats and/or energy.

Food retailers play a critical role in shaping the availability of food and the way it is marketed. Globally, the business practices of leading food retailers have an important impact on what children and families eat and the healthiness of their diets. There is substantial opportunity for food retailers to play an increased role in ensuring children's rights to good nutrition and healthy food.

Purpose of document

The aim of this document is to summarise the evidence relating to actions that food retailers can take to create healthy food environments and address unhealthy diets. This review is intended to inform the development of an evidence-informed 'framework for action' that can be used to guide retailer actions to create healthier retail food environments, and contribute to improved business practices that support good nutrition amongst children and families.

Methods

We conducted a review of academic and grey literature to identify evidence of the impact of different aspects of supermarket environments on nutrition and health, the effectiveness of interventions aimed at improving the healthiness of supermarket environments, and current practice. We collated the findings and summarised the evidence across four 'action areas': 1) corporate strategy; 2) product development and labelling; 3) product availability and placement; 4) promotional activities. Illustrative good practice examples were highlighted for each action area.

Summary of key findings

- The review found evidence that retailer practice across each of the four key 'action areas' can affect dietary behaviours and population health, with several aspects of current practices linked to a range of negative nutrition and health outcomes.
- There are various actions supermarkets can take to improve the healthiness of food environments and positively impact children's diets. There is evidence to support the effectiveness of action in each of the four 'action areas':
 - 'Corporate strategy', including overarching corporate goals, and support for government-led implementation of initiatives and recommendations to improve population nutrition
 - 'Product development and labelling', including: reformulation of existing 'own-brand' products to reduce added sugar, sodium and harmful fats; introduction of *new* healthier own-brand products; and implementation of easy-to-understand interpretive nutrition labelling on own-brand products.
 - 'Product placement and availability', including greater shelf space for healthier products, and placement of healthier products in prominent positions in-store (such as at checkouts and end-of-aisle displays).
 - 'Promotional activities', including favouring healthier products in promotions in catalogues/circulars and other promotional activities (such as loyalty rewards and mobile apps);

reducing price promotions and other in-store marketing for unhealthy products; and using in-store signage (including on-shelf labelling) to promote healthier products.

- Currently, many supermarkets are taking some action to improve food environments. However, many initiatives are short-term, lack any evaluation of their impact, and do not focus on reducing the extensive in-store marketing of unhealthy foods. In order to ensure children's rights to good nutrition and health, there is a need for supermarkets to expand their actions to other nutrition-related priority areas, rigorously evaluate their activities, and regularly report on progress using standardised metrics.
- Food retailers can demonstrate their corporate commitment to improving children's nutrition and health by adopting a comprehensive strategy designed to increase the proportion of products sold that are healthy. Priority actions for retailers are outlined in the table below.
- Implementation of several of the recommended actions is likely to be complex, requiring high-level organisational support for change. Key factors to consider as part of implementation include the complexity of supermarket promotional strategies, which are typically planned well in advance and involve extensive collaboration between retailers and food manufacturers, and the balance of power between food retailers and manufacturers, which may vary across different food categories and countries. While there is evidence that many of the recommended nutrition-related actions do not harm retailer profits, consideration of the commercial-viability of nutrition-related actions needs to be a key focus for all stakeholders.

Corporate strategy	<ul style="list-style-type: none"> • Explicitly incorporating nutrition and health as a core part of corporate strategy • Adopting an evidence-based definition of ‘healthy’ that is based on national nutrition standards and/or guidelines and international evidence • Actively supporting implementation of global recommendations to improve nutrition, including refraining from lobbying activities that oppose or delay public health regulations to address unhealthy diets • Setting SMART (specific, measurable, achievable, relevant and time-bound) goals related to a range of nutrition-related action areas • Regularly monitoring and evaluating progress against goals • Disclosing commitments and quantified progress against commitments in publicly accessible reports
Product development and labelling	<ul style="list-style-type: none"> • Introducing <i>new</i> healthier ‘own-brand’ product lines whilst shifting away from ultra-processed products • Continuing to reformulate existing ‘own-brand’ products (including products for infants and young children) to make them healthier by reducing levels of added sugar, sodium and harmful fats – in line with, and in support of, relevant government targets and guidelines (refer to recommendations on the use of non-nutritive sweeteners by the WHO Nutrition Guidance Expert Advisory Group, once finalised) • Complying with government regulations and recommendations for front-of-package nutrition labelling (where national-level government policies are not in place, adopting globally recommended best practice front-of-package nutrition labelling on eligible ‘own-brand’ products) • Supporting implementation of front-of-pack labelling by displaying summary nutrition information for all products on shelves or shelf/price tags, and in online stores
Product availability and placement	<ul style="list-style-type: none"> • Reducing in-store placement strategies that promote less healthy foods (e.g. unhealthy products at the eye and hand height of children, at checkouts, end-of-aisle displays and island bins). Instead, ensure that healthy food and non-food items are promoted in prominent places in-store • Restricting sales of certain less healthy products (e.g. energy drinks) to children
Promotional activities	<ul style="list-style-type: none"> • Ensuring that pricing strategies (e.g. price promotions, discounts or loyalty discounts) are used to incentivise purchase of healthier foods, and do not incentivise purchase of less healthy foods • Reducing or ceasing other promotional strategies of less healthy foods that appeal to children (e.g. product packaging that features cartoon and animated characters, celebrities and/or images that appeal to children) • Stopping marketing practices that undermine breastfeeding and prevent mothers from meeting their own breastfeeding goals, including marketing of infant formula, follow-on formula and growing-up milks as set out in the International Code of Marketing of Breastmilk Substitutes

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1. Background

1.1 Unhealthy diets and obesity are a global public health problem

Unhealthy diets are the leading cause of death and disability worldwide, and represent an urgent public health challenge (1). In 2017, 22% of all deaths among adults globally and 15% of all Disability Adjusted Life Years (DALYs) lost were associated with dietary risk factors (1).

Suboptimal diets are the primary driver of obesity and related non-communicable diseases (NCDs) (2), rates of which have almost tripled since 1975 (3). In 2016, the World Health Organization (WHO) reported that 1.9 billion adults were overweight and over 650 million were living with obesity (3). Of particular concern is the growing prevalence of overweight and obesity among children and adolescents, which has risen from 4% in 1975 to 18% of all children and adolescents globally in 2016 (3). Obesity is also now a major concern in low- and middle-income countries (LMICs) (4), and many LMICs are now tackling a 'double burden' of undernutrition (stunting, wasting and nutrient deficiency) and overnutrition (overweight and obesity) which presents a highly complex set of challenges (5). Children are particularly exposed to this 'double burden', with inadequate nutrition in infancy and early childhood co-existing with diets high in fat, sugar and salt and low in nutrients (6). Children with overweight and obesity are at risk of mental and behavioural issues as well as development of serious NCDs later in life. Actions to prevent obesity and associated NCDs are urgently needed in order to protect the health and wellbeing of children and future generations.

1.2 Unhealthy food environments drive unhealthy diets

The food environment includes all the places we access food, the types of food available and their nutritional quality, the price and affordability of different foods and diets, and the way food is marketed to us, including through advertisements, promotions and information on food packages.

The main driver of unhealthy diets and obesity are unhealthy food environments dominated by the supply, distribution and marketing of processed, packaged foods that are often high in added sugar, sodium, harmful fats and/or energy (4).

Actions from government, the food industry and broader society are required as part of a comprehensive response to improving the healthiness of food environments (4, 7). The food industry, including food retailers, food and beverage manufacturers and food service providers, plays a key role in influencing the health of food environments through the types of products they manufacture, supply and market.

1.3 Food retailers are gatekeepers to the food supply

Food retailers have a powerful influence on purchasing decisions and population diets (8). Food retailers, in conjunction with food manufacturers and producers, shape the food supply and impact the types of products available to the public and the way they are marketed. The various aspects of marketing, including the price, promotion and placement of products (the 'four P's of marketing') strongly influence what people choose to buy and eat (9).

In high income countries, consumers purchase most of their food from supermarkets (8). In LMICs, increasing urbanisation has seen a rapid rise in the presence and market share of supermarkets (10). The world's ten largest grocery retailers have been estimated to control 30% of food sales globally (11), and in a number of countries, a small number of companies control the majority of the market (12). As the market share of the top few retailers increases, their actions have an increasing impact on what children and families eat.

Importantly, diets in most regions around the world continue to be more ‘unhealthy’ than they are ‘healthy’ (13). Furthermore, purchasing behaviours and food choices vary widely depending on people’s nutritional knowledge, income and education (14). In particular, people from lower-income groups are typically at a disadvantage when it comes to accessing healthier products, and are less likely to eat a healthy diet (15, 16). Large food retailers have a unique opportunity to substantially improve the healthiness of food retail environments and, thereby, positively influence the diets of large numbers of people and help address existing dietary inequalities.

1.4 Purpose of this document

The aim of the document is to summarise the evidence relating to actions that food retailers can take to create healthy food environments and address unhealthy diets. This review is intended to inform the development of an evidence-informed ‘framework for action’ that can be used to guide retailer actions to create healthier retail food environments, and contribute to improved business practices that support good nutrition amongst children and families. This document is structured as follows.

- First, we discuss the potential role of food retailers in creating healthier food environments and addressing unhealthy diets, with a particular focus on children’s nutrition.
- Second, we present the latest evidence of the effectiveness of interventions to improve the healthiness of food retail environments, including discussion of current practice amongst food retailers.
- Third, we discuss the importance of understanding factors that impact marketing decisions made by retailers, and relevant considerations when implementing nutrition-related recommended actions.
- Finally, we summarise evidence-based recommendations for food retailers across four key areas of action. We also include suggested metrics for ongoing monitoring and reporting.

2. Potential role of food retailers in improving population diets

2.1 A focus on children's rights to good nutrition and health

UNICEF recognises that nutrition is a human right, and that by taking a child rights-based approach, children as distinct rights-holders are entitled to good nutrition (17). The growing prevalence of overweight and obesity among children poses a significant threat to their health and wellbeing, and puts them at risk of developing serious NCDs, behavioural and mental health problems throughout their lives (18). Whilst other factors, such as physical activity, contribute to overweight and obesity, diet is the key determinant factor. As such, for good health throughout life it is important to improve nutrition in childhood and adolescence (17).

Children's diets are heavily influenced by the practices of the food industry. Food retail environments shape and influence the social norms in which children grow up, and provide children with important opportunities to interact directly with food. Food marketing often targets children directly, for example, through the use of cartoon and animated characters, celebrities, prizes and games as part of product packaging. Importantly, children are typically exposed to many of the same food environments as adults, and are influenced by the same marketing strategies used by food retailers even if these are not directly targeted to them. For example, parents and caregivers make purchasing decisions on behalf of children and are influenced by the marketing tactics used within food retail environments. These tactics can also result in 'pester power' directed at parents and caregivers, which can further influence what people buy for their children (19).

As part of a comprehensive approach to protecting children's rights to good nutrition and health, improvements to the general healthiness of supermarket environments will likely benefit children, and should be a focus for food retailers.

2.2 Retailer actions to promote healthy eating

Around the world, large retailers have taken some voluntary action to improve population diets. However, independent evaluation suggests that, thus far, these actions fall short of recommendations and, at a global level, are not yet contributing to meaningful improvements in population health.

The Access to Nutrition Initiative (ATNI) benchmarks the largest food and beverage manufacturers globally on their nutrition-related policies and practices (20). In 2020, ATNI conducted a 'spotlight' benchmark in the United Kingdom (UK), in collaboration with ShareAction, specifically focused on the 10 largest UK food retailers. The report found that whilst some retailers have recognised their role in contributing to nutrition-related efforts and have made commitments to reduce sugar and salt, introduce healthy checkouts and front-of-pack nutrition labelling, policies and commitments were overall inadequate and inconsistent (21).

Civil society initiatives in other countries have had similar findings. INFORMAS (the International Network for International Network for Food and Obesity / Non-communicable Diseases (NCDs) Research, Monitoring and Action Support) (22) developed the BIA-Obesity (Business Impact Assessment – Obesity and population nutrition) tool (23) to assess food and beverage manufacturers, supermarkets and quick service restaurants on their nutrition-related policies and commitments at a country level (23). In 2018, assessments conducted in Australia and New Zealand using the BIA-Obesity tool found that major supermarkets all performed poorly (24, 25). Some supermarkets had commitments to reformulate own-brand products and display government-endorsed nutrition labelling on the front-of-pack of their own-brand products, but no supermarkets had policies relating to limiting the promotion of unhealthy foods and/or increasing the promotion of healthy foods in-store (e.g., at end-of-aisle displays and island bins) (24, 25).

Although these examples are from only three countries, they point to the need for increased action from food retailers in improving population diets and addressing obesity, including in the areas of product development, labelling, product placement, accessibility and promotions in-store and online.

3. What food retailers can do to support healthy diets among children and families

3.1 Overview

There are several actions that food retailers can take to improve the healthiness of in-store food environments and positively impact the diets of children and families. Actions can be broadly categorised under four areas:

- ‘Corporate strategy’, including overarching company strategies and goals related to nutrition and health (see **Section 4**).
- ‘Product development and labelling’, including actions related to: reformulation of existing ‘own-brand’ products; introduction of *new* healthier own-brand products; and implementation of easy-to-understand interpretive food labelling on own-brand products (see **Section 5**).
- ‘Product availability and placement’, including actions related to availability and stocking products, allocation of floor and shelf space, placement of products at checkouts, end of aisle displays and other displays (see **Section 6**).
- ‘Promotional activities’, including actions related to pricing strategies, promotions in catalogues/circulars, in-store signage, images or branding that appeal to children, and other promotional actions (such as loyalty rewards and mobile apps) (see **Section 7**).

3.2 Search strategy

We conducted a search of academic databases for studies on interventions/policies and practices targeted toward improving the healthiness of the food retail environment. The search was conducted separately for each action area (corporate strategy, product development, product availability and placement, and promotional activities). Literature included both research articles identified by the search, as well as those identified in previous systematic reviews. We focused on literature published in the last five years. This search was supplemented by a grey literature search using Google and the same search criteria. We collated the findings and summarised the evidence across the three action areas. Illustrative good practice examples were also highlighted for each action area.

4. Action area: Corporate strategy

4.1 Scope

Scope	Description
Corporate strategy	<p>Overarching company strategies, commitments and goals related to improving population nutrition and addressing obesity and non-communicable diseases.</p> <p>These strategies, commitments or goals could be outlined in corporate mission statements or vision statements, corporate social responsibility or sustainability reporting, and/or other policy documents in the public domain.</p>

Integrating nutrition into corporate strategies and goals

4.2.1 Global recommendations for action

The 2004 WHO Global Strategy on Diet, Physical Activity and Health highlighted the important role that corporations, including food retailers, can play in ensuring affordable, healthy foods are widely available (26). To effectively improve the healthiness of food environments and positively impact the diets of children and families, it is recommended that companies in the food industry, including food retailers, integrate nutrition and health as a core part of their corporate strategy (23, 25, 27). This clearly communicates to both internal and external stakeholders that nutrition is a core value of the business, and can provide the foundation for considering nutrition-related issues as part of relevant business practices.

There are also a wide range of globally recommended actions for food companies related to nutrition (20, 23, 25, 27, 28). It is recommended that companies develop a comprehensive set of policies and commitments in response to these actions, including in areas such as product formulation, marketing and food labelling. It is consistently recommended that relevant policies and commitments need to be clear and consistent, and include SMART (specific, measurable, achievable, relevant and time-bound) goals and targets (25, 29, 30). Evidence indicates that specific policies are likely to be much more effective from a public health perspective. For example, one study of UK supermarket checkout policies demonstrated that chains with clear and consistent checkout policies were more likely to adhere to the policy in stores and have a lower proportion of unhealthy foods at checkouts, when compared with supermarkets that had vague or no healthy checkout policies (31).

It is critical that nutrition-related policies and commitments are made public, for example as part of sustainability reports and policy documents in the public domain (e.g. on corporate websites). Documented company policies and commitments maintains credibility through transparency, and are important to enable objective monitoring of progress against targets (7, 20, 23, 27). Monitoring and evaluation of policies and actions is also crucial to ensure that actions are having the intended outcomes (7, 23, 32). Evaluation should be regular, independently verified or reviewed, and reporting of progress should be disclosed in publicly accessible reports for transparency and accountability. Retailers should also report on key metrics and indicators articulated in sustainability reporting standards that are relevant to nutrition, such as the Global Reporting Initiative (33) and Sustainability Accounting Standards Board (34).

4.2.2 Current practice

- An analysis of CSR commitments of 31 of the world's largest supermarkets found supermarkets had made little action in supporting health and nutrition, with few commitments related to nutritional quality, accessibility, availability (beyond own-brand products) and food pricing (35).
- A baseline assessment by The World Benchmarking Alliance of 350 of the world's largest food and agricultural companies indicated food retailers were well behind in addressing nutrition challenges. The assessment highlighted that all 59 included retailers lacked a comprehensive strategy for improving access to healthy foods for consumers (36).
- In the UK, the Food Foundation's Plating Up initiative benchmarks the progress of major food businesses in key domains related to health and food sustainability. The 2020 report of 11 UK supermarkets rated eight supermarket chains as having some action in areas of healthy food sales and encouraging healthy diets, however supermarket commitments lacked clear outcomes or reporting against targets. The remaining three supermarkets were found to have limited or isolated action in the areas (37).
- In a 2018 assessment of CSR policies and commitments related to obesity prevention and nutrition of Australian supermarkets, supermarket chains scored an average of 26 out of 100, indicating supermarkets had some commitments to health and nutrition issues, but more substantial action was needed. Three of four supermarkets assessed referred to nutrition and health in corporate reporting (38). Another analysis of Australian supermarkets found half of public health-related CSR policies lacked specificity, were vague or unambiguous and were not measurable (39).

4.2.3 Good practice examples

- Tesco (UK) has set a target to increase sales of healthy products as a proportion of total sales, from 58% (as at 2021) to 65% by 2025 (40).
- Woolworths (Australia) integrates nutrition as part of their corporate strategy. In their publicly available Sustainability Plan, the supermarket chain outlines a goal to 'materially increase healthier choices in customers' baskets', supported by a range of detailed, commitments on product formulation, nutrition labelling, promotional initiatives to support nutrition, and marketing to children (41, 42).

Defining healthy and unhealthy foods

4.3.1 Global recommendations for action

In developing and implementing policies and actions related to nutrition, it is critical that food retailers adopt clear, externally recognised, evidence-based definitions of healthy and unhealthy foods and beverages. These definitions should underpin corporate strategy on nutrition and health, and should be applied consistently across policy areas, such as product development, pricing, marketing and placement strategies.

Definitions of 'healthy' and 'unhealthy' food should be based on relevant government-endorsed national nutrition policies and guidelines and/or international/regional standards. While there is some variation amongst national dietary guidelines, a healthy diet is generally defined as one that consists of a wide variety of vegetables and fruit, legumes and beans, wholegrains, lean protein (poultry, fish, eggs, tofu), nuts and seeds, dairy and alternatives (43, 44). Unhealthy foods are typically defined as foods and beverages high in added sugar, salt and/or harmful fats, and low in nutritional value. There is also a growing body of evidence to show

ultra-processed foods¹ are associated with a range of negative health outcomes, including weight gain and obesity (45-50).

Alongside national dietary guidelines, there are a range of government-endorsed nutrient profiling models and food classification systems that can be used to assess the healthiness of food products (51). Such systems are used in a variety of settings, such as to underpin health and nutrition claims, front-of-pack labelling initiatives, marketing of foods to children, provision of food in public institutions and nutrition-related legislation (52). Internationally, the WHO has a range of region-specific nutrient profile models (53-55). At the national level, internationally recognised government-endorsed nutrient profiling systems include: the Health Star Rating (HSR) scheme in Australia and New Zealand (56); the Nutri-Score system in Europe (57); and the Ofcom model in the UK (58).

4.3.2 Current practice

A 2018 study examining the CSR commitments of 31 of the largest food retailers internationally demonstrated there was little transparency in the criteria used by supermarkets to define ‘healthy’ foods. At the time of the assessment, no supermarkets included in the study publicly reported on the criteria underpinning ‘healthy’ foods as identified in their product labelling, in-store signage or on their website, with the exception of the Australian Health Star Rating system (35).

4.3.3 Good practice examples

- Woolworths (Australia) defines items as ‘healthier’ if products are identified as a core food by the Australian Dietary Guidelines or if products have a Health Star Rating of 4 or above. (41)
- Tesco (UK) measures product healthiness using the UK Government’s nutrient profiling model, Ofcom (40).
- Ahold Delhaize uses the Nutri-Score nutrition rating system (based on the UK Food Standards Agency model, and endorsed by the WHO) as their criteria for healthy foods, in stores across Belgium, Serbia, Romania and The Netherlands. Their US stores have adopted the Guiding Stars proprietary nutrition guidance system to define healthy foods (59).

Actively support government implementation of global recommendations to improve nutrition

There is global consensus that transitions to healthy food environments will need to be predominantly government-led (4, 7). Globally recommended government policy actions include comprehensive regulations to restrict the exposure of children to the marketing of unhealthy foods and brands, improved health-related food labelling, and fiscal policies to better incentivise consumption of healthier foods and disincentivise consumption of unhealthy foods. Most governments have high-level strategic plans drawn up for improving nutrition, preventing obesity, and reducing NCDs (60). However, globally, there has been a particular lack of action with respect to the implementation of a comprehensive set of recommended policies to create healthier food environments (32).

A wide range of studies from multiple countries have identified that a key reason for the lack of government policy action is the strong pressure from the food industry for governments to minimise or delay regulations that may reduce their profitability (7, 27, 61). There is consistent evidence that food companies use a broad set of strategies to shape public policy and public opinion in their favour, often at the expense of public health

¹Ultra-processed foods and beverages are industrial formulations typically with five or more (and usually many) ingredients. Besides salt, sugar, oils, and fats, ingredients of ultra-processed foods and beverages include food substances not commonly used in culinary preparations, such as hydrolyzed protein, modified starches, and hydrogenated or interesterified oils, and additives whose purpose is to imitate sensorial qualities of unprocessed or minimally processed foods and their culinary preparations or to disguise undesirable qualities of the final product, such as colorants, flavorings, non-sugar sweeteners, emulsifiers, humectants, sequestrants, and firming, bulking, de-foaming, anticaking, and glazing agents.

(62). These strategies include lobbying governments directly, funding research, supporting community groups, and adopting self-regulatory measures in an attempt to delay or stave off government regulation (62-66).

Food retailers can support societal efforts to improve population diets by actively supporting governments to implement globally recommended policies. When formulating nutrition-related company policies and plans, retailers should refer to relevant priorities in national and international recommendations, such as those outlined in national nutrition or obesity prevention plans, the WHO Global NCD Action Plan, the UN Sustainable Development Goals, or the WHO Report of the Commission on Ending Childhood Obesity. Furthermore, food retailers can engage with initiatives that support government efforts in improving food environments. This includes:

- Being early adopters of voluntary schemes. For example, implementing government-endorsed front-of-package labelling across their own-brand products and engaging with government-led reformulation initiatives (e.g. the Australian Healthy Food Partnership or UK's Responsibility Deal program);
- In the absence of relevant national-level government initiatives or proposals, implement schemes that have evidence of effectiveness from other contexts and settings;
- Refraining from lobbying activities that oppose or delay public health regulations to address unhealthy diets.

5. Action area: product development and labelling

5.1 Scope

Scope	Description
Product development and reformulation	Reformulation of existing products and new product development to reduce nutrients of concern (sodium, added sugars, saturated fat, trans fat), energy content and portion size. Can also include reformulation or new product development to increase beneficial components (such as fruit and vegetables, and wholegrains) and nutrients (e.g. fibre, protein). Applies to own-brand products and branded products stocked by retailers.
Food labelling	Front-of-pack labelling, back of pack labelling, health and nutrition claims. Applies to own-brand products only.

5.2 Evidence of importance with respect to dietary behaviours and population health

Packaged foods and beverages have become increasingly prominent in food supplies globally, and now make up a substantial proportion of population diets (67). Whilst the nutritional quality of packaged foods and beverages varies widely both across and within food categories, many packaged food are high in sodium, sugar, saturated fat and/or trans fat (67, 68). In addition, many packaged foods are ultra-processed, and are thereby linked to a range of negative nutrition and health outcomes (48, 68).

The WHO and others have called for improvements to the nutritional quality of packaged foods and beverages, alongside informative labelling on product packaging to encourage healthier purchases and facilitate industry reformulation (2, 69).

Through their own-brand (private label) products, many food retailers are gaining substantial market share across all product categories (70). In 2016, own-brand products were estimated to have 17% value share of the global grocery market (71) and as high as 40%-44.5% in the UK, Germany and Switzerland (70). In their capacity as manufacturers, food retailers have an important opportunity to engage in product development, reformulation and labelling strategies that contribute to obesity prevention efforts and healthier diets (26).

5.3 Effectiveness of interventions in this action area

5.3.1 Product development and reformulation

Improving the nutritional profile of products (through reducing energy, sodium, added sugar, trans fat and saturated fat content, and to a lesser extent, increasing positive food components, such as fibre and fruit and vegetable content) and introducing new healthier products (product development) can improve the nutritional quality of the food supply and positively influence population dietary intakes.

Non-nutritive sweeteners (non-caloric food additives, including natural and artificial food additive ingredients, that impart sweetness when added to a product, also referred to artificial sweeteners (72)) have been widely used to substitute added sugar in a range of processed foods and beverages, while maintaining their palatability and sweetness (72-74). While non-nutritive sweeteners have been proposed as a strategy to reduce added sugar and energy levels in food products (75, 76), recent reviews indicate there is not yet a clear consensus on the benefits of non-nutritive sweetener consumption on population dietary intake or health

outcomes on the general population (74, 77), or specifically on children (78, 79). A 2017 review found a potential association between artificial sweetener use and increased weight or BMI, and increased risk factors of metabolic syndrome (80). Emerging evidence also indicates possible adverse impacts on the gut microbiome (81) and glucose tolerance (82), although existing studies in this area have primarily been conducted in animal models. The WHO Nutrition Guidance Expert Advisory Group are currently (2021) in the process of developing recommendations for non-sugar sweetener use (83), based on the current evidence base. Once finalised, food retailers and manufacturers should refer to these recommendations on the use of non-nutritive sweeteners in their food reformulation efforts.

Systematic reviews of empirical studies provide evidence for the effectiveness of reformulation in reducing population intakes of sodium (84) and trans fat (85), particularly when reformulation is mandatory. Furthermore, a systematic review and meta-analysis of 16 studies found that sugar reformulation was associated with reduced dietary intake of sugar and improved body weight (86). Research indicates that reformulated products are typically well accepted and purchased by consumers (87). For example, a 2017 review of consumer acceptance of reformulated food products indicated sodium content in breads and processed meats could be reduced by approximately 40% and 70%, respectively, whilst maintaining consumer acceptability (88).

While studies generally focus on the reduction of single risk nutrients, care must be taken to ensure reformulation efforts improve the overall healthiness of products. Reformulation should not result in the substitution of one harmful ingredient for another, or the reduction of one risk nutrient replaced by an increase in another risk nutrient. For example, it is preferable that reductions in sugar levels are not replaced by increased saturated fat levels in reformulated products.

Across studies, evidence indicates that mandatory reformulation is substantially more effective than voluntary reformulation at reducing levels of nutrients of concern in products and positively impacting population diets (89). While a recent study exploring the impact (2015-2018) of voluntary food industry sugar reformulation targets set by Public Health England found that the food industry had made some progress to meet targets (90), a related study showed very little change in overall sales-weighted product nutrient profiles of the top 10 companies across the UK in the same period of time (91). Furthermore, evaluations of voluntary public private partnerships that include food industry reformulation components (such as the Food Policy Dialogue in Australia and the Public Health Responsibility Deal in the UK) indicate that in order to be effective, governments should set measurable targets, work with the food industry to regularly monitor, evaluate and report on progress and enforce mechanisms such as sanctions for non-compliance (92-94). To ensure the maximum population health benefits, food retailers should work to reformulate their product portfolios whilst supporting government-led action on reformulation and complying with relevant country regulations (91, 95).

5.3.2 Food labelling

Food labelling is an important aspect of supporting consumer understanding and selection of healthier food choices and has been shown to encourage food industry reformulation (96). A recent meta-analysis of 60 studies (including more than 2 million observations across 11 countries) found that on-package food labelling (nutrient content, nutrition and health-related claims, icons, symbols and logos) led to reduced consumer consumption of certain nutrients like total fat, although did not affect intakes of total carbohydrates, protein, saturated fat, or sodium (96). Another systematic review and meta-analysis of nine studies found that, following the implementation of food labelling, there was a statistically significant increase in the number of people that selected and switched to healthier food products (97).

There is a stronger body of evidence showing that interpretive front-of-pack labelling (e.g., including simple colours and/or symbols that provide context to the nutritional information) is more easily understood by consumers and is more effective at improving nutrition choices than nutrient only labelling (usually on back of pack) (97-99). Examples of interpretive front-of-pack labelling schemes implemented globally include the

Health Star Rating system (Australia, New Zealand), traffic light labelling system (UK), Nutri-Score (France, Belgium, Spain, Germany, Luxembourg, Switzerland) and warning labels (Chile, Israel) (100). Evidence from systematic reviews demonstrates that interpretive front-of-pack labelling can improve consumer understanding and perception of the nutritional quality of products as well as increase selection and purchasing of products with better nutritional quality (97, 101, 102).

Nutrition labelling has also been shown to be effective in prompting food industry reformulation for certain nutrients like sodium and trans fat (96). A recent study conducted across packaged food products sold in supermarkets in Australia and New Zealand found that voluntary adoption of the Health Star Rating was associated with a small increase in HSR rating for those products (i.e., increase in healthiness) as well as a statistically significant reduction in sodium content (103). However, the authors concluded that the voluntary nature of the HSR program lowered the effectiveness of the findings because HSR labelling was predominantly on products that were already 'healthier' (103). Another study in Chile found that after initial implementation of mandatory front-of-pack warning labels on unhealthy foods and beverages, there was a significant decrease in the proportion of 'high in sugar' and 'high in sodium' foods and beverages (104).

Across studies, the effectiveness of front-of-pack labelling schemes has been shown to vary based on whether schemes are enacted on a voluntary or mandatory basis, with the majority of evidence pointing to the need for mandatory, government-led implementation. Research suggests that when front-of-pack labelling schemes are voluntary, they are more readily applied to healthier products than unhealthy products (105). This can lead to confusion amongst consumers and a lack of transparency on the nutritional quality of unhealthy products. In order to support nutrition and health amongst children and families, it is important for food retailers to support government led action on nutrition labelling, rather than implementing custom-developed in-house schemes that could delay mandatory labelling schemes (that are likely to be more effective overall).

5.4 Current practice

Product development and reformulation

Few supermarkets have comprehensive publicly available commitments to reformulate their own-brand product lines. A 2018 study that assessed the CSR commitments of 31 of the largest food retailers globally (across the UK, US, Canada, Australia, South Africa, Hong Kong, Chile, South Korea and several countries in Europe) found that only 12 out of 31 supermarkets made commitments to improve the nutritional quality of own-brand products (106). Commitments were predominantly centred on sugar and sodium reduction, while some supermarkets also had commitments to reduce fat and saturated fat. Related commitments included a commitment by one supermarket (Marks & Spencer) to reduce portion size of single-serve snacks. Four supermarkets (Marks & Spencer, Sainsbury's, Morrisons, Casino Guichard-Perrachon, Ahold Delhaize) had targets for healthy supermarket own-brand foods to contribute a significant proportion of total food sales (106).

Food labelling

In Belgium, a recent assessment of uptake of the voluntary Nutri-Score by food retailers and manufacturers in the first year of implementation (2019) found that, of the 10% of products in Belgium that display Nutri-Score, 90% were own-brand products. Five major retailers had made commitments to displaying Nutri-Score on their own-brand products, and uptake of Nutri-Score was much higher amongst food retailer own-brand products compared to other packaged food and beverage manufacturer products (107). In Australia, as at 2018, 134 manufacturers were voluntarily implementing HSR labelling and 31% of eligible products were shown to display HSR labelling (56). A large proportion of the uptake of the HSR system was attributed to supermarket own-brand labels (Coles, Woolworths and Aldi) which collectively accounted for 56% of total HSR uptake (56). These findings suggest that, in some countries, food retailers are showing leadership in their implementation of voluntary front-of-pack labelling, paving the way for other food manufacturers to follow suit.

5.5 Good practice examples

- As at 2021, Morrison's supermarket in the UK has set time bound calorie, salt and sugar reduction targets across key product categories in line with Public Health England's voluntary reformulation initiative. The company has also set a target that 65% of their own-brand products will be classified as 'healthy' by 2025. Targets are tracked and reported against on a yearly basis in their sustainability report, and are specifically aligned to SDG3 (108).
- Tesco (UK) has also made a commitment to make products healthier through reformulation, including plans to increase the percentage of ready meals that contain at least one of the recommended five a day to 66% by 2025 (currently 50%, up from 26% in 2018). Progress against targets is disclosed annually.
- In Australia, the two largest supermarket retailers have committed to implementing the Australian Government endorsed Health Star Rating front-of-pack labelling system across all own-brand products. This includes implementing interpretive star labels on the front of pack of confectionery and soft drinks (109).

6. Action Area: Product availability and placement

6.1 Scope

Scope	Description
Availability	Availability and stocking of food product options; restrictions on sales of unhealthy products to children (such as energy drinks and other unhealthy products)
Floor space / shelf space	Proportion of space dedicated to fresh produce, shelf space for unhealthy and healthy products; positioning of products on shelf
Checkouts	Products on display at staffed or unstaffed checkouts/tills/cash registers
End of aisle display / end cap	Displays for a product that are placed at the end of an aisle / end caps
Other displays	Display stands, free standing or permanent island bins located throughout the store, displays targeting children
Product shelf placement	Positioning of products on shelves at targeted heights (arm/eye-level of adults and children)

6.2 Availability and floor space/shelf space

6.2.1 Evidence of importance and effectiveness of availability and shelf space interventions

The foods available in supermarkets can influence what people choose to buy. Providing a greater number of healthier options or increasing the proportion of healthier foods, may positively affect diet quality through several proposed mechanisms (110). Changing the range of available products may influence social norms on what products are commonplace or acceptable, potentially influencing consumers to select more healthful products or limiting certain less healthful products to specific populations, such as children. Additionally, increasing the shelf space allocated to particular food categories may increase their visibility or salience, thus encouraging their selection.

Evidence from systematic reviews shows that availability and shelf space interventions can lead to healthier food purchasing behaviours. A 2019 systematic review evaluated the effect of altering the availability or proximity of healthier options on food selection and consumption (110). The review found that reducing the available food options in a category could reduce selection and consumption of targeted unhealthy foods (such as snack foods, higher energy meals and sugar sweetened beverages). Another systematic review of obesity-related interventions in supermarkets found that increasing the healthy food accessibility (increased quantity and variety of healthy foods and beverages available for purchase), combined with either information or price discounting, were effective in stimulating purchase and consumption of healthier foods (111). Reviews have also indicated the effectiveness of approaches to increase the relative availability of healthy foods (compared to unhealthy foods) in settings such as vending machines and workplaces (112, 113).

6.2.2 Current practice

In a 2018 analysis of CSR commitments made by 31 global supermarket chains, only four made statements about healthy foods available in their stores, while a further four referred to availability of sustainable foods and three committed to increasing availability of fresh foods (35).

Several studies have highlighted the high availability of unhealthy foods in supermarkets:

- In a comparison of 170 supermarkets from eight countries, after adjusting for store size, supermarkets from the UK had the greatest aisle length dedicated to crisps, chocolate and confectionery, while Australia had the greatest aisle length dedicated to soft drinks (114).
- A 2019 audit of supermarkets in Australia found stores in the most disadvantaged areas had almost 10% more shelf space allocated to unhealthy food and beverages, compared to stores in the least disadvantaged areas (115).
- Supermarkets in Cape Town, South Africa were found to have shelf spaces predominately filled with unhealthy foods, with high socioeconomic areas shown to have greater shelf spaces allocated to unhealthy foods (116).
- Assessments of supermarkets in Argentina found the shelf length allocated to unhealthy foods is on average four times greater than the length dedicated to healthy foods (117).

6.2.3 Good practice examples

- In Australia, ALDI and Woolworths have committed to dedicate more space to fresh produce or place fresh produce near the front of store in new format or upgraded stores (41, 118).
- In a three-year study from 2019 to 2022, Iceland supermarkets (UK) and public health researchers are collaborating to investigate the effects of increasing the availability of fresh fruit and vegetables and positioning near store entrances on the food purchases and diets of women and children. The WRAPPED study is the largest supermarket trial to date to examine the effect of enhanced product placement on health outcomes (119).
- Through the Nutrition Policy of remote Indigenous community stores operated by The Arnhem Land Progress Aboriginal (ALPA) in Australia, stores commit to maintaining minimum stocking requirements of healthy foods and drinks (120).
- Several supermarkets across the UK and New Zealand voluntarily introduced a policy whereby teenagers will be asked for an ID when purchasing energy drinks with more than 150mg caffeine per litre and restricted from purchasing if they are under the age of 16. These supermarkets include Countdown in New Zealand and Waitrose, Sainsbury's, Morrisons, Lidl, Coop, Asda, Aldi and Tesco within the UK (121, 122).

6.3 Product placement (checkouts, end of aisle caps and other prominent areas)

6.3.1 Evidence of importance with respect to dietary behaviours and population health

The placement of foods and beverages at high-traffic areas within a supermarket, such as end-of-aisle displays and checkout and are associated with impulse (unplanned) purchasing for these items (114, 123). While a small percentage (2%) of total items in supermarkets are promoted in these high-traffic areas, these items are estimated to constitute around 30% of total supermarket sales (124), and hence are a concern for consumer health when utilised to promote unhealthy foods and drinks. For example, end-of-aisle displays have been shown to increase sales of sugar sweetened soft drinks by over 50% (125).

Products displayed in high traffic areas can also translate to increased child purchasing requests for these items and contribute to 'pester power' (126, 127). One US study found children commonly requested sweets and snacks during supermarket shopping, with parents yielding to children's request almost half of the time (128). Another Australian study showed 70% of parents purchased at least one food item requested by children during a shopping trip (129).

The positioning of products on shelves has also been suggested influence food purchasing (130-132). Studies have found eye-level shelf placement to be most effective in capturing consumer attention and influencing

purchasing decisions of breakfast cereals and potato chips (133, 134). Other research suggests placement of products on bottom shelves, at children's eye level, prompt their requests for unhealthy foods and beverages (135).

6.3.2 Effectiveness of placement interventions

Evidence from systematic reviews supports the effectiveness of placement changes on healthier food purchasing. A 2020 systematic review on the influence of store product placement on dietary-related outcomes (purchasing, sales, dietary behaviours and BMI) found that greater availability and more prominent positioning of healthy foods, or reduced availability and less prominent positioning of unhealthy foods, were associated with positive consumption behaviours and sales, but not weight status (136).

A US-based randomised controlled trial found that promoting healthier alternatives in particular food categories (milk, ready to eat meals, cereal, frozen meals, in-aisle beverages, checkout beverages) through changes to placement, signage and product availability led to increased sales of low-fat milk, water and healthier frozen meals (137). Another large-scale US study that included a placement-only intervention found purchasing of healthy items increased when these products were displayed at end-of-aisles. However, if both healthy and unhealthy products were displayed at end-of-aisles then sales of unhealthy products increased but sales of healthy products were unchanged (138). In addition, a 2021 non-randomised controlled study sought to assess the effect of moving a range of meat-free products (including meat-free sausages, burgers, meatballs and mince) from their usual display position into more prominent positions within the meat aisle, across 20 stores in a UK supermarket chain (139). The study found that these positioning changes resulted in a long-term increase of meat-free product purchases, although it did not reduce the long-term sales of meat products.

6.3.3 Current practice

Multi-national supermarket audits conducted in Australia, Canada, Denmark, New Zealand, Sweden, the UK and the USA found that all countries had more than 70% of checkouts displaying energy dense snack foods and soft drinks. 2019 audits of supermarkets in Australia, showed that in the four largest Australian supermarket chains, 90% of traditional checkouts and 50% of end-of-aisles displayed unhealthy food (typically confectionery, chocolate or soft drinks) (115). A 2018 survey of UK supermarkets found that all food and beverage products displayed in high-traffic areas, 70% were for those that contribute significantly to children's sugar and energy intake, while fruit or vegetables accounted for less than 1% (140).

A Canadian analysis of breakfast cereals found 'less healthy' cereals were almost three times more likely to be displayed at eye level in middle shelves (the most prominent positions in the aisle) (141). The study also found 'less healthy' cereals had significantly more shelf facings and special pricing signage, and were more likely to be displayed in prominent positions, including end cap and mid-aisle displays, compared with healthier cereals.

Children's food products are also often strategically positioned, with studies demonstrating child-directed products with colourful packaging or promotions are typically located on the lower shelves in supermarkets, at children's eye level and within their reach (127, 142, 143). One US study also found food stores commonly stocked children's cereals on bottom shelves, while adult cereals were more likely to be located on higher shelves (19).

6.3.4 Good practice examples

- In the UK, the majority of major retailers have voluntary policies to restrict the sale of unhealthy foods and beverages at checkouts, including Tesco, Lidl, Co-op and Sainsbury's. Confectionery-free checkouts were implemented across the UK from 2015 and replaced with healthy items, such as dried fruits and nuts (11).
- Tesco (UK) has also committed to reviewing the prominence and amount of store space allocated to healthier products (40).

- Under their company Healthy Food Strategy, stores managed by Outback Stores (a major operator of remote community stores in Australia) commit to healthier product placement strategies that include fresh fruit, vegetables and water placed at store fronts, sugary drinks located at back of stores and at least 50% of all beverage displays to include water and diet drink options (144).

7 Action area: Promotional activities

7.1 Scope

Scope	Description
Price promotion/discounts	Coupons, temporary price reductions, multibuy offers ('buy one get one')
Catalogues and circulars	Hard copy (distributed) and online circulars
In-store signage, displays and marketing materials	Shelf labelling, signs and posters, trolley and basket signs, floor stickers, promotional displays
Images or branding designed to appeal to children	Cartoon characters, celebrity endorsements, prizes and offers, online games
Other promotional activities	Loyalty rewards, recipe cards, magazines, advertising campaigns, website content, mobile apps, community engagement/philanthropy, sponsorship

7.2 Price promotions/discounts

7.2.1 Evidence of importance with respect to dietary behaviours and population health

Price promotions or discounts are a common feature of grocery shopping in many supermarkets globally. Price promotions have been shown to increase purchases of promoted products in the short-term, and, when applied systematically, can influence consumer purchasing and consumption patterns (145). A UK study found that one-fifth of the volume of price-promoted food and beverages sold is in addition to what would be sold were the promotion not in place (146). Promotions have also been shown to lead consumers to increase their food consumption, rather than stockpiling these extra purchases to take advantage of the lower price (147).

Price promotions are of concern from a public health perspective when they are targeted toward unhealthy foods and beverages. Recent research from the UK indicated that consumers who purchased more of their food and drinks on promotion were more likely to purchase products that are higher in fat, sugar and sodium, at the expense of healthier foods such as fruit and vegetables (148). These shoppers were also more likely to purchase unhealthy foods in greater volumes and were more likely to be overweight or living with obesity. Exposure to in-store price reductions for sugar-sweetened beverages has also been associated with consumers having a higher Body Mass Index (BMI) (149). One study estimated that price promotions accounted for around a third of total energy, sugar, saturated fat and sodium purchased into the home in Scotland (150). Other Scottish research has found these promotions lead to the largest increases in unhealthy food and beverage purchases in children and young people, compared to other age groups (151).

7.2.2 Effectiveness of pricing interventions in supermarkets

There are numerous systematic reviews that show price-based strategies are effective in changing purchasing and consumption behaviours, based on evidence from randomised controlled trials, experimental methods and demand modelling (152-155). For example, a recent systematic review of randomised controlled trials in grocery stores found economic interventions (subsidies on healthy foods or taxes on unhealthy foods) had a statistically significant effect on purchasing behaviours in eight out of nine real store interventions and all 6 simulated store intervention (154). One New Zealand modelling study has suggested a 20% fruit and vegetable subsidy could result substantial population health benefits (156). Examples of successful food store trials include a randomised controlled trial in Melbourne, Australia, in which a 20% price reduction in fruit and vegetables in one supermarket successfully led to households purchasing 35% more fruit and 15% more vegetables (157). Another Australian trial within remote Indigenous community stores showed a 20% price discount on fruit, vegetables and bottled water was associated increased purchases of these products (158). It should be noted that it can be challenging to measure unintended consequences that result from healthy food

subsidises, such as money saved from healthy foods being used to purchase unhealthy foods, and thus difficult to fully evaluate the impacts of pricing subsidies.

While there is an increasing focus on price promotion initiatives to promote healthier food purchasing, there are emerging calls for the removal of price promotions on unhealthy foods (159). A recent UK analysis estimates that the level of sugar from purchased foods would reduce substantially if promotions of high sugar products were ceased (160). With the recent UK government action to prohibit certain types of unhealthy food promotion, it will be crucial to closely monitor the impact of these policies on population purchasing and consumption behaviours.

7.2.3 Current practice

Research has consistently demonstrated that unhealthy foods are more frequently price promoted in supermarkets than healthy foods:

- A 2020 systematic review of studies in high-income countries (US, UK, Ireland, Australia, New Zealand and the Netherlands) found that price promotions were more frequent on unhealthy food and beverages, when compared with healthier options (161).
- These findings are mirrored by research into Australian supermarkets, which showed that price promotions were more prevalent and often larger in magnitude for unhealthy products than for healthy foods (162). One Australian study indicated that an average of 28.8% of unhealthy products were price promoted in any given week, compared with 15.1% of healthy foods (163). The average price discount on unhealthy foods was 25.9%, compared with only 15.4% for healthy products.
- Analysis of consumer purchasing in the UK and Scotland indicated that food and drinks higher in sugar are more likely to be promoted, and with greater discounts (150, 160). In Scotland, half of savoury snacks and crisps (46%) and over 40% of confectionary and sugar-sweetened soft drinks were identified to be sold on promotion in 2018. This is in comparison to healthy products (such as plain bread, vegetables/salad leaves, fruit, and fish), of which less than a third were sold on promotion in each category (150).

A 2018 review of CSR commitments made by 31 global supermarkets chains found that only three supermarkets had committed to implementing promotions to encourage sales of healthy foods, and six supermarkets had made statements regarding offering discounts or subsidies on healthy foods or other foods that meet specific dietary needs. One supermarket chain was found to have committed to ensuring that healthy foods were no more expensive than unhealthy foods (35). There are no known commitments or actions by supermarkets to address price promotions for unhealthy foods.

7.2.4 Good practice examples

- Tesco (UK) has committed to increasing the number of promotions on healthy products, building on from their 'Helpful Little Swaps' events, which encourage customers to try healthier alternatives to less healthy 'family favourites' at the same price. The supermarket will monitor and publicly disclose progress of these targets annually in their Little Helps Plan. They have also established a Corporate Responsibility Committee chaired by an independent non-executive Director, who meet three times a year to review the overall performance of the Little Helps Plan (40).
- Delhaize (Belgium) provides customers with price discounts of 5-15% and rewards for purchasing healthy products, defined as products with a Nutri-Score of A or B, through their loyalty program. (ref)
- Morrisons (UK) have committed to keeping food affordable for shoppers, having invested over 1200 price cuts in 2020, with on average 50 lines of fresh fruit and vegetables on promotion each week (164).

- Remote Indigenous community stores managed by The Arnhem Land Progress Aboriginal (ALPA) in Australia committed to a Nutrition Policy which aims to increase the affordability of nutritious foods and drinks (120). Through this policy, stores commit to maintain minimum price mark-ups on healthy food options, and there is preferential pricing to offer water and diet beverages at a lower price than sugar beverages. Another operator of remote Australian Indigenous community stores, Outback Stores, outlines a commitment to no promotions of confectionary, sugary drinks and chips within their company Healthy Food Strategy.(144)
- In a program launched by Coles (Australia) in 2021, the supermarket offered a month of online discounts on fresh fruit and vegetables and other selected healthy products, such as muesli, eggs, yoghurt and nuts (165).

7.3 Other promotional and marketing activities

7.3.1 Evidence of importance with respect to dietary behaviours and population health

There is a growing evidence base on the relationship between food marketing and its effect on children, with research highlighting food and drink promotion activities targeting children are extensive, largely promoting unhealthy foods and can influence the dietary preferences, behaviours and diet-related health of children (166-171). A recent systemic review found strong evidence to suggest food marketing can influence children's food purchases, with evidence that marketing affects children's food knowledge, preferences, consumption behaviours and diet-related outcomes (167). Another systematic review and meta-analysis showed that unhealthy food advertising was associated with greater food intake in children (166). One Australian study, for example, found that children increased food consumption after exposure to unhealthy food marketing (through an online game and/or a television cartoon) and did not reduce food intake at a subsequent meal to compensate for this (170). Researchers have referred to this as a 'cascade of effects', whereby exposure to food promotions can affect children's brand awareness and preferences, consequently altering their food purchases and intake, with potential adverse impacts on health- and weight-related outcomes (168).

Food retailers utilise a range of marketing and promotional strategies to promote sales of food products, delivered in-store (such as signage, posters, shelf strips and displays), online and/or on food packaging. Most supermarkets use weekly catalogues/circulars as a key part of their promotional activities. These weekly catalogues reach large populations of consumers, with research from the US suggesting around 70% of consumers read food circular advertisements (172). While they are just one component of supermarket marketing activities, catalogues are strongly linked with other marketing tactics such as in-store product placement and availability. The content of catalogues also typically reflect the types of foods promoted in-store, often in high traffic areas such as island bins and end-of-aisle displays (173).

Food packaging is another key aspect of food promotion. Many food manufacturers use design elements that appeal to children (e.g. brand mascots, licensed characters, celebrities, toys, games and competitions) on their food packaging. This type of imagery has been shown to be highly attractive to children, and can significantly influence children's taste and food preferences (174). One study of 4- to 6-year-old children confirmed they significantly preferred foods with packaging that featured popular cartoon characters, over the same foods without these images (175). This effect was strongest for energy-dense, nutrient-poor foods. Research indicates that most products that display imagery that appeals to children on packaging are unhealthy (176, 177).

7.3.2 Effectiveness of in-store marketing interventions to promote healthy foods and/or discourage unhealthy foods

A 2020 systematic review identified that interventions to promote healthy products (using strategies such as shelf labels, recipe cards and taste tests), either used independently or as part of multi-component interventions, typically show positive effects in improving the healthiness of food purchases (178). Another

recent systematic review found point-of-sale nutrition information interventions that identified healthy and/or unhealthy products tended to improve the healthiness of consumer food purchases and dietary intake, although further evidence on strategies to discourage unhealthy foods was required (179).

In particular, evidence from two systematic reviews has shown that on-shelf nutrition summary systems hold substantial promise in promoting healthier food purchasing (153, 179). The Guiding Stars system, for example, is an on-shelf nutrition labelling system that assigns healthiness ratings to fresh and packaged products based on their nutritional quality (from zero to three stars) (180). Studies in the US and Canada have found that on-shelf nutrition labelling using the Guiding Stars system resulted in significant shifts in consumer purchasing towards foods with higher nutritional ratings (181, 182). In addition, the 12 month 'Eat Well @ IGA' randomised controlled trial in a small number of Australian supermarkets found that the use of shelf tags for healthy foods (those with a high Health Star Rating) led to increased sales of healthier products (183, 184).

While there is less evidence on promotional interventions to discourage unhealthy food purchasing, the existing research on these show promising results, in particular for sugar-sweetened beverages. In one US study, when calorific information messages were displayed on fridge signage in a corner store, sugar-sweetened beverage purchasing among black adolescents was reduced (185). In addition, a 2020 randomised controlled trial assessed the impact of limiting the marketing of unhealthy foods across ten Australian remote community food stores (186). Intervention components included no promotional activity of unhealthy food and beverages and reduced prominence of unhealthy foods in store (e.g. no visible availability end of aisle displays and other high traffic areas). This strategy led to a clear decrease in sales of unhealthy products. Importantly, there was no adverse impact on gross profit of the stores.

Several studies have evaluated the use of technology-based interventions designed to promote healthier food purchases (179). For example, one New Zealand study in 2017 investigated the effectiveness of a smartphone app which used barcode scanning to generate traffic light labels based on products' salt content. This study found that the intervention led to reduced sodium content of user food purchases (187). A separate study evaluated the delivery of nutrition education via a multimedia kiosk system (188). This study found that the intervention resulted in decreased fat intake and increased fibre and fruit and vegetable intake in participants. In considering the effectiveness of technology-based interventions in general, while some interventions have been shown to have promising effects on outcome measures, such as increased sales/consumer intake of targeted healthy foods (including fruits, vegetables and snacks) and improved healthiness of consumer purchases, detailed evaluation is still needed to understand the characteristics of interventions that prove successful, the context in which they work and the public health impact.

7.3.3 Current practice

Globally, there is evidence that the promotional catalogues of many supermarket chains disproportionately promote unhealthy foods. An analysis assessing the supermarket catalogue content from leading supermarket chains in 12 countries (Australia, Canada, Hong Kong, India, Malaysia, New Zealand, Philippines, Singapore, South Africa, Sweden, United Kingdom, United States of America) found catalogues largely promoted unhealthy foods across all countries, with the exception of chains in the Philippines (no unhealthy foods promoted) and India (11% unhealthy foods in catalogues) (173). Separate studies from Australia, the US and the Netherlands confirm these findings, with all of them showing that unhealthy foods constituted a much larger proportion of the products advertised in weekly catalogues/flyers than healthy products (refs).

In 2009, US food companies spent a reported \$72 million on child-orientated product packaging and retailer marketing. These food companies mostly consisted of manufacturers of snack foods, cereals, confectionery, frozen desserts and beverages (189). One Canadian analysis of the visual communication seen on breakfast cereals demonstrated cereal products with higher levels of sugar, trans fat and refined grains were more likely to use child-directed marketing, through the use of licensed characters, theme cereal colours or shapes and incentives (such as games and prizes) (143). In addition, evaluation of retail stores in Bandung City, Indonesia

found promotional activities of breastmilk substitutes, commercial complementary foods and snack products for young children were widespread, violating national regulations and the International Code of Marketing of Breast-milk Substitutes (190).

7.3.4 Good practice examples

- Since 2006, several US supermarkets have implemented nutrition summary shelf label systems, often combined with in-store educational programs (191).
- Morrisons (UK) have pledged to remove all characters that appeal to children from packaging of any children's snacks that are high in fat, sugar and sodium, by the end of 2021 (164).
- Analysis of promotional catalogues from July to September 2018 indicated found that circulars from SM Supermarket (Philippines) promoted only core foods and did not advertise discretionary foods or alcohol, with a high portion of the circulars devoted to fruits (35%) and vegetables (31%) (173).
- The Arnhem Land Progress Aboriginal (ALPA), which operates remote Indigenous community stores in Australia, have a Nutrition Policy that permits promotional activities on healthy food and drinks only (120). In this policy, ALPA has committed to promoting the display of healthy food and drinks and limiting the display of unhealthy food and drinks in high traffic areas. Stores have implemented point-of-sale promotional posters and shelf talkers to help shoppers identify "Healthy Choice" products.
- Woolworths and Coles supermarkets (Australia) have committed to raising awareness of the Health Star Rating in their catalogues, on shopping baskets and on the website. Woolworths have also launched a free fruit for kid's initiative, providing free fresh fruit to children under 12 in most stores nationally. Further, Woolworths has partnered with a UK technology company, Spoon Guru, to launch filters to help identify products while shopping online that may be suitable for their dietary or lifestyle needs, such as high fibre or vegetarian products (41, 42, 192).

8 Implementation considerations

In evaluating the evidence for interventions in the supermarket setting and considering actions that food retailers can take to encourage healthier purchasing, careful thought needs to be given to the way that retailers make marketing decisions and their relevant implementation considerations.

The marketing points observed in a supermarket setting can include price promotions, prominent displays, catalogue/circular promotions, media promotions and a variety of other strategies. The mix of strategies and the choice of featured products are carefully considered and planned well in advance by both retailers and food manufacturers. These strategies are dynamic, often changing weekly, with integration between different marketing mediums. Recommendations to change either policy or practice in relation to a particular marketing technique needs to consider this complexity, including consideration of the potential implications for both retailers and food manufacturers (both individually and collectively), and how each stakeholder is likely to respond to various changes. It is highly likely that the considerations may also vary between countries and contexts, and for different product categories, based on the balance of power between food retailers and manufacturers which is strongly influenced by the number and type of competitors present in the market.

For food retailers to voluntarily implement changes to encourage healthier purchasing, it is likely to be necessary for the business benefit to be clearly articulated, for example, through an expectation of improved sales and profit, or through improved customer perceptions of their brand. While there is evidence that many of the globally recommended nutrition-related actions are unlikely to harm retailer profits, consideration of the commercial-viability of nutrition-related actions needs to be a key focus for all stakeholders. Importantly, sales of fresh food can be a win-win for both retailers and public health, with greater sales of these products often translating to increased overall store sales. Indeed, many supermarket retailers are prioritising healthy fresh food through increased floor space and promotions (42, 118, 119).

Nevertheless, there are likely to be some limits to the extent to which healthy food can replace unhealthy foods in some marketing strategies, such as price promotions and end of aisle display placement. The reasons for the prominence of ultra-processed packaged food in these types of supermarket marketing include the fact it is typically more shelf-stable than fresh foods, there are many more ultra-processed unhealthy foods than there are healthy options, and unhealthy processed food is often purchased on impulse and therefore more amenable to increases in product and category sales (145). Unlike the producers of healthy fresh food, the companies that produce ultra-processed packaged foods are also often large national and global brands, meaning that they have substantial budgets to pay for marketing and promotions. With all of these factors favouring the promotion and marketing of less healthy foods and drinks, there are few examples of individual supermarket retailers making significant changes to the product mix included in marketing initiatives to favour healthier food. It may be that retailers would prefer governments use regulation to provide a level playing field and encourage healthier foods rather than working as individual companies to promote healthy products against prevailing market forces, and while other retailers take advantage of the potential financial benefits.

For these reasons, implementation of several of the recommended actions is likely to be complex, requiring high-level organisational support for change. Actions for retailers to facilitate the implementation of recommended actions could include:

- Transitioning the overall company strategy to have community health and wellbeing as a core focus. Within that context, consistent branding that is sustained over time can be applied to highlight multiple areas of healthy food retail action across diverse and dynamic marketing strategies. As an example, integrated promotion of healthy foods using consistent branding could be applied at end of aisle and checkout displays, and in catalogues and via other media. An example used in the context of a research trial is the “Eat Well @ IGA” brand developed by a chain of supermarkets in Australia (184).
- Participating in a government-led coalition (including government, retailers, consumers, investors, public health groups) to explore areas where government regulation might be the only possible strategy available to encourage healthier purchasing while at the same time ensuring acceptable business outcomes for retailers.

- Working with food manufacturers to incorporate more of their healthier products into retail marketing strategies.

9 Recommended actions and draft reporting metrics for food retailers

The evidence presented in this report outlines specific actions that food retailers can take to positively impact children’s nutrition and foster healthier food retail environments for children, summarised in Table 1. Table 1 also outlines examples of draft suggested metrics for monitoring and reporting, adopted from relevant indicators proposed by initiatives such as the Global Reporting Initiative (33), Sustainable Accounting Standards Board (34), The Food Foundation’s Plating Up Progress project (193), Action on Nutrition’s Global Access to Nutrition Index, and BIA-Obesity assessment (Business Impact Assessment - Obesity and population nutrition) developed by INFORMAS (38).

Table 1: Recommended actions and draft reporting metrics for food retailers to support healthier supermarket food environments for children

Action Area	Recommended actions for food retailers	Suggested metrics for monitoring and reporting (draft)
Corporate strategy	<ul style="list-style-type: none"> • Explicitly incorporating nutrition and health as a core part of corporate strategy • Adopting an evidence-based definition of ‘healthy’ that is based on national nutrition standards and/or guidelines and international evidence • Actively supporting implementation of global recommendations to improve nutrition, including refraining from lobbying activities that oppose or delay public health regulations to address unhealthy diets • Setting SMART (specific, measurable, achievable, relevant and time-bound) goals related to a range of nutrition-related action areas • Regularly monitoring and evaluating progress against goals • Disclosing commitments and quantified progress against commitments in publicly accessible reports 	<ul style="list-style-type: none"> • Overall proportion of sales from healthy and unhealthy foods
Product development and labelling	<ul style="list-style-type: none"> • Introducing <i>new</i> healthier ‘own-brand’ product lines whilst shifting away from ultra-processed products • Continuing to reformulate existing ‘own-brand’ products (including products for infants and young children) to make them healthier by reducing levels of added sugar, sodium and harmful fats in line with, and in support of, relevant government targets and guidelines (refer to recommendations on the use of non-nutritive sweeteners by the WHO Nutrition Guidance Expert Advisory Group, once finalised). • Complying with government regulations and recommendations for interpretive front-of-package nutrition labelling (where national-level government policies are not in place, adopting globally recommended best practice front-of-package nutrition labelling on all eligible ‘own-brand’ products) 	<ul style="list-style-type: none"> • Average levels of sodium, sugar, harmful fats and energy in own-brand products (by food category), including comparison to relevant government targets and guidelines (standard and sales-weighted) • Proportion of products (by food category) that meet relevant government nutrient targets and guidelines (standard and sales-weighted) • Percentage change in average sodium, sugar, harmful fats and energy in own-brand products (by food category) • Proportion of eligible own-brand products displaying government-recommended front-of-package labelling
Product availability and placement	<ul style="list-style-type: none"> • Reducing in-store placement strategies that promote less healthy foods (e.g. unhealthy products at the eye and hand height of children, at checkouts, end-of-aisle displays and island bins). Instead, ensure that healthy food and non-food items are promoted in prominent places in-store. • Restricting the sale of certain less healthy products to children, such as energy drinks, to children. 	<ul style="list-style-type: none"> • Percentage of space devoted to unhealthy food and beverages within displays at checkouts, end-of-aisle displays and store shelves

<p>Promotional activities</p>	<ul style="list-style-type: none"> • Ensuring that pricing strategies (e.g. price promotions, discounts or loyalty discounts) are used to incentivise purchase of healthier foods, and do not incentive purchase of less healthy foods. • Reducing or ceasing other promotional strategies of less healthy foods that appeal to children (e.g. product packaging that features cartoon and animated characters, celebrities and/or images that appeal to children). • Stopping marketing practices that undermine breastfeeding and prevent mothers from meeting their own breastfeeding goals, including marketing of infant formula, follow-on formula and growing-up milks as set out in the International Code of Marketing of Breastmilk Substitutes. • Supporting implementation of interpretive labelling by displaying summary nutrition information for all products on shelves or shelf/price tags, and in online stores. 	<ul style="list-style-type: none"> • Percentage of food and beverage price promotions devoted to unhealthy food and beverages in catalogues, checkouts and end-of-aisle displays • Marketing spend (absolute and proportion of total) used to promote products that target children (where relevant) • Marketing spend (absolute and proportion of total) used to promote healthy vs unhealthy products (where relevant)
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10 Summary of key findings

- Supermarkets play a key role in influencing children's nutrition and health.
- There are various actions supermarkets can take to improve the healthiness of food environments which impact children's diets. There is evidence to support the effectiveness of actions across four key areas:
 - 'Corporate strategy', including overarching corporate goals, and support for government-led implementation of initiatives and recommendations to improve population nutrition
 - 'Product development and labelling', including: reformulation of existing 'own-brand' products to reduce added sugar, sodium and harmful fats; introduction of *new* healthier own-brand products; and implementation of easy-to-understand interpretive nutrition labelling on own-brand products.
 - 'Product placement and availability', including greater shelf space for healthier products, and placement of healthier products in prominent positions in-store (such as at checkouts and end-of-aisle displays).
 - 'Promotional activities', including favouring healthier products in promotions in catalogues/circulars and other promotional activities (such as loyalty rewards and mobile apps); reducing price promotions and other in-store marketing for unhealthy products; and using in-store signage (including on-shelf labelling) to promote healthier products.
- Currently, many supermarkets are taking some action to improve food environments. However, supermarkets typically do not report the impact of existing initiatives on population diets. Moreover, comprehensive action to restrict the promotion and placement of unhealthy foods and/or increase the promotion and placement of healthy foods in-store is lacking. In order to ensure children's rights to good nutrition and health, supermarkets to expand their actions to other nutrition-related priority areas, rigorously evaluate their activities, and regularly report on progress using standardised metrics.
- There are a broad range of actions that retailers can take to improve the healthiness of supermarket food environments. A wide-ranging approach involving collective action by all relevant stakeholders is required to ensure food retail environments can effectively support children's health and nutrition.

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