

# Rapid systematic literature review: Impact of in-premise marketing on consumer purchasing and consumption

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# Executive summary

In Scotland overweight and obesity now affects the majority of adults and a significant proportion of children.<sup>1</sup> This has profound impact on population health and wellbeing,<sup>2</sup> and places an unsustainable demand on NHS services.

In 2018 the Scottish Government published its diet and healthy weight delivery plan,<sup>3</sup> to tackle the root causes of overweight and obesity and prevent weight-related health harms. This included proposals to restrict the in-premise marketing of 'discretionary' foods (i.e. certain foods high in fat, sugar or salt that are optional to the diet and add little nutritional benefit).

This review was commissioned by the Scottish Government, as part of a programme of work, to examine evidence to inform these proposals. It aims to provide an initial review of evidence on the impact of in-premise marketing of high fat, sugar and salt (HFSS) food and drink on consumer behaviour, both in the retail and the out-of-home food sectors.

The review was conducted by researchers from NHS Health Scotland, the University of Stirling and the University of Edinburgh. It draws on evidence from 20 articles (systematic reviews and individual studies) published between 2012 and 2018, which were identified as relevant to the research questions.

This review focuses exclusively on elements of marketing that do not involve a reduction in price, namely positioning, packaging and value-adding promotions. A previous report<sup>4</sup> focused on price promotions (i.e. temporary price reductions and multi-buys).

Where evidence is available, the review also discusses the differential impact of in-premise marketing on particular population groups.

## **Key findings**

### **Influence of in-premise marketing on consumer purchasing**

- Overall the available evidence suggests that in-premise marketing has an impact on increasing consumer purchasing of HFSS food.<sup>4 5</sup>
- This effect appears to be influenced by factors such as frequency of exposure to the marketing activity and consumer preferences.<sup>6 7</sup>

### **Influence of in-premise marketing on consumption**

- Evidence suggests there may be an association between exposure to in-premise promotions and consumption of HFSS foods in children and young people,<sup>8</sup> this includes increasing snacking behaviour and energy intake.
- There was insufficient evidence to draw any conclusions for the adult population.

### **Impact of positional promotions**

- Evidence included in this review suggests that positional promotions can have an impact on increasing purchasing for adults,<sup>5 9</sup> and children and young people.<sup>10</sup>

### **Impact of packaging promotions**

- The direction of the influence of packaging promotions on sales varies depending on the type of consumer and their primary goals, i.e. health or indulgence. Evidence suggests promotional text or colours can influence perceptions of the healthiness and tastiness of a product.<sup>11 12</sup>
- For studies which looked at children and young people the results were clearer, showing a consistent association between ‘fun’ packaging and children’s product preferences.<sup>8 13 14</sup>

### **Impact of value adding promotions**

- Overall the evidence suggests that value-adding promotions have an impact on children and young people’s product preferences.<sup>8 10 15</sup> No evidence was found that focused on adult populations.

## Differential impact on population groups

- There is consistent evidence from a number of studies that children and young people are influenced by in-premise marketing, such as packaging,<sup>8 16</sup> competition and prize-based promotions and checkout displays<sup>10</sup> and value-adding promotions.<sup>8 17</sup>
- Evidence from one study of weak quality found an increased impact of marketing on participants who were categorised as both high-impulse and overweight, than the participants who were categorised as high-impulse and had a healthy weight, or low-impulse.<sup>18</sup>

## Conclusions

The evidence suggests that, overall, in-premise marketing of HFSS food has an impact on increasing consumer purchasing behaviour, and seems especially influential for children and young people.

However, the findings from this review should be interpreted in light of its limitations. In particular, the breadth of marketing activity included in this review was large and in some areas there were only a small number of studies found exploring the relevant activity.

Thus, while overall there are indications from the evidence of the impact of in-premise marketing on increasing consumer purchasing, it is difficult to draw any firm conclusions on the impact restrictions may have from the current evidence. It should be noted, however, that the lack of studies should not be interpreted as evidence of no effect.

# 1. Introduction and context

## 1.1 Overweight and obesity in Scotland

Overweight and obesity now affects the majority of adults (65%) and a significant proportion (28%) of children in Scotland.<sup>1</sup> Obesity is one of the main contributors to ill health, contributing to a number of conditions including type 2 diabetes, cardiovascular disease and 13 types of cancer.<sup>2</sup>

Long-term monitoring of the diet in Scotland has shown that we are consistently eating too much fat and sugar in our daily diets and this is contributing to the obesity epidemic in Scotland.<sup>19</sup>

## 1.2 Policy context

The World Health Organization's (WHO) Global Strategy on Diet, Physical Activity and Health<sup>20</sup> highlights the importance of governments' role in achieving long-term improvements in public health. The WHO recognizes that government action is required to address the impact of marketing, especially to children and young people. In 2010 the WHO launched recommendations on the marketing of foods and non-alcoholic beverages, which include the recommendation to reduce the marketing of foods high in fat, sugar and salt (HFSS) to children and young people.<sup>21</sup>

The Scottish Government has launched A Healthy Future: Scotland's Diet and Healthy Weight Delivery Plan,<sup>3</sup> which sets out a series of actions to transform Scotland's food environment to support healthier choices. As part of these, an action was outlined to consider restrictions to in-premise marketing of discretionary foods.

In order to ensure action is informed by evidence, the Scottish Government commissioned NHS Health Scotland, in partnership with the University of Stirling and the University of Edinburgh, to provide a review of evidence on the impact of in-premise marketing of food high in fat, sugar and salt (HFSS) on consumer behaviour. This will form part of a programme of work that examines evidence to

inform government proposals to restrict the in-premise promotions of discretionary food.

### **1.3 Research aims**

The review aims to answer the following research questions:

- 1 What is the impact of in-premise marketing of HFSS foods on consumer behaviour?
- 2 Does in-premise marketing of HFSS have a differential impact on any population groups?
- 3 What is the impact of the individual elements of in-premise marketing of HFSS on consumer behaviour?
- 4 Do premises of different sizes and types use different forms of in-premise marketing of HFSS?

The review draws on current evidence from systematic reviews and individual studies published between 2012 and 2018.

The review complements a previous report of evidence on the impact of price promotions on consumer behaviour.<sup>4</sup>

### **1.4 Terms and definitions**

#### **HFSS foods and drink**

Food and drink that is high in fat, sugar or salt.

#### **Discretionary foods**

Discretionary food is a subset of HFSS foods which includes confectionery, sweet biscuits, crisps, savoury snacks, cakes, sweet pastries, puddings and sugar-containing soft drinks. These categories are optional to the diet. They contribute about one fifth of total calories, total fat and saturated fats, and half of daily free sugar consumption to the Scottish diet,<sup>22</sup> and add little or no nutritional benefit.<sup>23</sup>

The evidence found for this review refers to foods which are high in fat, sugar and salt as a group, or to particular food products such as crisps or confectionery.

Discretionary foods are a subset of the HFSS category, therefore while caution should be taken in interpreting the findings, it is likely that findings relevant to the whole HFSS will be largely generalisable to a subset within this category.

### **Retail food sector**

Suppliers of food and drink purchased to be consumed in the home, including supermarkets, convenience shops and grocery stores.

### **Out-of-home food sector**

Suppliers of food and drink purchased and consumed (or prepared) outside the home,<sup>24</sup> including takeaway and home-delivered food, cafes and fast-food restaurants, meal deal lunches and food to eat on the go.

### **Marketing**

Marketing employs a wide variety of promotional techniques, such as positioning, price and packaging, to stimulate the purchase of a product. These often occur in combination,<sup>25</sup> referred to as the 'marketing mix'. The individual elements employed in the marketing mix depend on the product and the target customer.<sup>26</sup>

The term 'marketing' in this paper refers specifically to marketing that does not employ a price change. This paper refers to marketing taking place in-premise. Advertising outwith premises is not within the scope of this paper.

### **In-premise marketing**

In-premise marketing concerns all the activity that takes place inside a venue (retail or out of home) to increase the visibility and attractiveness of a product to induce sales. This could be, for example, moving a product from an aisle shelf to an end-of-aisle display.

The term in-premise marketing in this paper refers specifically to activities which do not employ a price change.

## **Promotions**

Promotions refer to the individual elements of marketing and are often categorised as price and non-price promotions.

### **Price promotions**

Price promotions are intended to encourage purchase of a product through reducing the price per unit or per volume.

### **Positional promotions**

Positional promotions increase a product's salience or proximity by placing it in a highly visible location in-store to attract consumer attention and encourage purchase. For example, front-of-store display, end-of-aisle and in-aisle display.

### **Packaging promotions**

Packaging promotions use colour, text, images or the shape of the packaging to attract attention on the shelf and/or make the product more desirable to certain consumers.

### **Value-adding promotions**

Value-adding promotions add a component to the product, such as the chance to win a prize, without changing the product itself or the price. For example getting a gift free with purchase, or sweepstakes, lotteries, instant wins, free draws and competitions.

## **1.5 Marketing and consumer decision making**

This section outlines the context in which marketing works, based on the authors' existing knowledge and understanding. The literature cited here was not selected using the systematic process described in Chapter 2 on methods and does not form part of the main findings of this review.

Marketing and promotions are designed to stimulate purchases.<sup>27</sup> They can operate through increasing attention to and/or the appeal of a product.<sup>28 29</sup> It is argued that the effect of marketing on purchasing can operate at a subconscious level to influence consumer choices.<sup>28 30</sup>

The scale of the influence of marketing can vary depending on the consumer characteristics, product characteristics, and purpose of the shopping trip. There is little consensus on what sociodemographic characteristics increase or decrease the influence of marketing. For example, one review found that different groups (young people, middle-aged or older consumers) were all labelled as the most 'deal prone' groups across different studies.<sup>27</sup> Researchers have identified other variables which appear to be more relevant when estimating the impact of marketing on a consumer. These include their primary motivation (i.e. health or indulgence), consumer impulsiveness, how much they enjoy shopping and whether they use a shopping list.<sup>11 31 32 33 34</sup>

Consumers use both cognitive and non-cognitive systems to make decisions. The cognitive decision-making system is able to absorb complex information; it is a slower system requiring greater amounts of mental energy and is used when consumers are making a deliberate choice on a product. The non-cognitive system operates quickly, with little effort and operates using unconscious short cuts. These short cuts enable consumers to navigate the thousands of choices presented to them and favour short-term benefits and superficial characteristics, like appearance, price, positioning and convenience.<sup>35</sup> When faced with many decisions, the cognitive system can become depleted and the non-cognitive system takes over.<sup>35</sup> Impulse marketing is designed to attract the short cuts used by the non-cognitive system, making products more attractive and visible and promoting instant gratification.<sup>35</sup> For example, action such as positioning products on the top shelf and increasing the shelf space given to a product improves consumer attention and consideration to purchase.<sup>36</sup>

These short cuts can also lead the consumer to make assumptions when interpreting promotions. For example, a study using data from a chain of large hypermarkets in

Europe found a substantial increase in sales of products positioned both at the ends of aisle and islands.<sup>37</sup> However, when the study also explored the effect of combining these types of positional promotions with price promotions, the study found sales increased further when end-of-aisle displays were combined with a price promotion, but no significant further increase occurred when a price promotion was combined with an island display. The researchers suggested this may be due to consumer assumptions that the price of a product featured in an island display has been reduced, even when no price reduction has been made. Unlike end-of-aisle displays, island displays are normally situated away from the product category section, making price comparison harder.

## **1.6 In-premise marketing in Scotland and the UK**

This section provides contextual information on in-premise marketing in the food retail and food out-of-home sectors in Scotland and the UK, based on the authors' prior knowledge. The references cited here were not selected using the systematic process on methods described in Chapter 2.

The researchers found no routine reporting on the prevalence of in-premise marketing in the food retail and out-of-home sectors Scotland or the UK, although statistics are available on the prevalence of price promotions in these contexts.<sup>38</sup>

### **Food retail sector**

In Scotland, as well as the rest of the UK, supermarkets dominate the food retail environment. In the UK the five major supermarket chains and two discounters account for 83% of food retail sales, and an estimated 85% of all calories purchased into the home.<sup>38</sup>

Data from two small studies looking at positioning of products in supermarkets gives an indication of their use in the UK. The first study, which compared the aisle length dedicated to HFSS foods in eight developed nations, found that supermarkets audited in the UK had the highest mean total aisle length dedicated to snack food including crisps, chocolate and confectionary.<sup>39</sup> The second, based on data from five supermarkets in the UK, looked at the presence of HFSS foods in prominent areas of

the supermarket, such as store entrances, checkout areas, aisle ends and other prominent locations, including free-standing display units. The survey found 70% of all food and drink products located in prominent areas were for foods which are included in Public Health England's calorie reduction or sugar reduction programmes.<sup>40</sup> Data from these studies is not generalisable due to the variation between the stores in the sample.

Evidence from international literature which explored the food environment suggests that marketing is widely used for HFSS foods targeting children and young people.<sup>8</sup> This appears to influence children and young people's interaction with their food environment. A study with young people in Scotland found HFSS food was the most frequently recalled category bought in response to marketing in the past seven days by the young people included in the sample.<sup>10</sup>

A cross-sectional study in UK supermarkets suggests that clear and consistent regulations may be effective in reducing HFSS foods displayed at checkouts. The study found that supermarkets within the sample that had clear and consistent policies for healthy checkouts displayed fewer foods at checkout and that a lower proportion (35%) of these foods were less healthy. In supermarkets with vague or no policy, between 57% and 90% of foods displayed at checkouts were less healthy.<sup>41</sup> A further study concluded that the implementation of policies to reduce the amount of less healthy foods at checkouts within supermarkets resulted in a reduction in the sales of unhealthy foods within these supermarkets by 17%. This effect was sustained at one year post implementation (15% reduction).<sup>42</sup>

## **Out of home food sector**

Food sales from the out-of-home sector also influence our overall diet. Data from the out-of-home sector in Scotland suggests there were around 960 million visits in 2018.<sup>43</sup> An analysis of sales in 2015 showed that food purchased in the out-of-home sector is likely to be high in fat, sugar and/or salt (HFSS).<sup>44</sup>

A 2014 report highlighted an increase in the proportion of visits that included foods and beverages on promotion between 2009 and 2012. The food categories that were

most likely to be purchased on promotion were fried chicken (54%), cheese burgers (53%) and pizza (43%).<sup>45</sup>

One audit in the out-of-home setting suggested that positioning foods high in fat sugar and salt near checkouts is also commonly used in out-of-home settings in Scotland,<sup>24</sup> with cakes, biscuits, confectionery or other sweet products most commonly promoted in this way at almost half (48%) of the outlets audited.

## **1.7 Health inequalities**

In Scotland there are inequalities in the level of obesity across the population. In 2017, 73% of those living in the most deprived areas were overweight or obese compared to 55% from the least deprived areas.<sup>46</sup> These inequalities appear to be most pronounced among women and children.<sup>47</sup> In 2017, 30% of children from the most deprived areas were at risk of overweight and obesity compared to 22% of children in the least deprived areas.<sup>46</sup>

Health inequalities are ‘unfair and avoidable differences in people’s health across social groups and between different population groups’.<sup>48</sup> A wider body of evidence than that drawn on in this review suggests that legislative and regulatory controls that change an element of people’s environment, such as restrictions on the promotion of HFSS foods, are more likely to reduce the inequalities in health experienced among disadvantaged groups.<sup>49</sup> On the other hand, universal interventions that aim to increase individual knowledge or skills only, such as healthy eating campaigns, may in fact increase inequalities – unless they are specifically targeted at disadvantaged groups or applied with a scale and intensity in proportion to the level of disadvantage.<sup>49</sup>

## 2. Methods

A systematic approach was adopted to identify relevant literature to answer the research questions in this review, which is presented in the Findings chapter. (As noted above, the introduction and context chapter drew on wider literature, which was not subject to the same approach). First, a search strategy was developed to identify studies published (in English and from any country) between 2012 and June 2018 that analysed the impact of in-premise marketing of HFSS foods on consumer behaviour. A six-year limit was applied due to the number of articles identified and the timescales for this review. Due to the search being undertaken in June 2018 the search was taken back to 2012 to capture a full six years. The search strategy is included in Appendix 1. The following databases were searched: ProQuest, KnowledgeNetwork, WARC, Business Source Complete, PsychInfo, Medline, Cochrane and KandE. In addition the reference lists of relevant articles were searched to identify further studies meeting our inclusion criteria.

The search strategy identified 3,402 articles for screening (see PRISMA diagram in Appendix 2). Studies were screened independently by two reviewers by title and abstract. Inclusion criteria included: high-income countries, marketing in retail or out-of-home sectors, and original studies of any study design. Exclusion criteria included nutritional labelling, as this was not seen as a promotional activity, and studies of public health interventions using marketing techniques (such as in-store promotions to prompt consumers to buy healthier products).

The full text of the potentially relevant articles were then retrieved and independently screened for eligibility by two reviewers. Disagreements were resolved through discussion and the reasons for exclusion were recorded for each of the excluded full text articles, and reported in the PRISMA diagram in Appendix B. A total of 20 studies were identified and assessed as directly relevant to the research questions.

Two researchers independently conducted a critical appraisal of the included studies, using CASP (Critical Appraisal Skills Programme)<sup>50</sup> tools, with disagreement being resolved through discussion. Study design, methodological quality, and

relevance of context were considered and studies were assessed as weak, moderate or high quality. Data that was extracted from the articles included population, marketing technique, methodological technique and outcomes. The Findings chapter provides a summary of the evidence extracted from these papers.

## **2.1 Limitations and gaps**

The review has a number of limitations. The quality of the studies included in this review was variable. The majority of the evidence identified was from single studies that explored in-premise marketing as a whole, or the individual aspects of marketing. Therefore, in some areas where only a small number of relevant studies were found, the certainty of the findings is limited.

There is limited publicly available evidence on the impact of in-premise marketing on sales. The available evidence, in the majority of cases, does not include detailed data, making it difficult to interrogate beyond the direction of impact.

We did not restrict the search to Scotland or the UK, as only a limited number of studies have been conducted in the UK. The studies include other high-income countries such as USA, Australia and European countries, which may limit their relevance to the Scottish context.

Due to the nature of the evidence found, it was not possible to interrogate the evidence in light of how different categories of retailers (for example supermarkets, convenience stores and discounters) might approach in-premise marketing. In addition, the majority of the evidence identified related to the retail environment rather than the out-of-home sector. This suggests that the out-of-home sector is a setting which would benefit from further research.

No evidence was found, either from empirical research or ex-ante analysis, on the effectiveness of restrictions on in-premise marketing of HFSS foods. Therefore it was not possible to quantify any associated reduction in sales of HFSS foods attributable to such restrictions. Future modelling studies to explore the likely consequences (both intended and unintended) would be helpful to develop this evidence.

## 3. Findings

This evidence review focused on in-premise marketing, both in the retail and out-of-home environment, and was limited to studies published in English between 2012 and June 2018. The following provides a summary of evidence identified on the impact of in-premise marketing on purchasing and consumption.

### 3.1 What is the impact of in-premise marketing of HFSS foods on consumer behaviour?

The review identified nine studies: one review of systematic reviews (high quality<sup>8</sup>); one systematic review (high quality<sup>51</sup>); two reviews (one moderate quality,<sup>4</sup> one weak quality<sup>16</sup>); and six primary studies (one high quality<sup>10</sup> and four moderate quality<sup>5 6 7 17</sup>) that examined the impact of in-premise marketing on consumer purchasing and consumption. The evidence was from high-income countries, with the majority of studies from the USA or Europe, and one single study from Scotland.<sup>10</sup>

The majority of studies focused on the retail environment, in particular supermarkets, with only two of the nine studies specifically including the out-of-home environment.<sup>5 16</sup> Not all studies provided information on the setting.

Overall, the available evidence suggests that in-premise marketing has an impact on increasing consumer purchasing of HFSS food.<sup>4 5</sup> This effect appears to be influenced by factors such as frequency of exposure and consumer preferences.<sup>6 7</sup> In the papers which focused on children and young people, there was a consistent impact of in-premise marketing on increasing purchasing or product preferences in this group,<sup>8 10 16 17 51</sup> and an association with consumption.<sup>8</sup>

## **Influence of in-premise marketing on consumer purchasing**

Evidence on purchasing comes from stand-alone studies, and emphasises the influence of shelf space and in-store promotions on sales in retail environments, and of product novelty in some out-of-home settings.

One study of moderate quality, from a retail setting, suggests that purchase decisions are equally influenced by marketing (such as product visual saliency and placement) and consumer preferences (such as brand preference, price sensitivity and dietary inclinations).<sup>7</sup> The study shows that product popularity and the shelf space allocated to it were strongly correlated and interacted to attract consumer visual attention, which in turn was the strongest predictor to actual purchases.

One study of moderate quality surveyed a large sample of regular consumers of soft drinks. The study tracked in real time their exposure to brand touch points. Brand touch points included instore communication, advertising, word of mouth and peer observation. This study suggests that the frequency of exposure to the touch point and whether the consumer reacted positively or negatively to it, influenced whether a brand was considered for purchase. In-store communications, such as viewing in-store posters and/or seeing prominent display of the product on the shelf, were the most influential touchpoint on purchasing decisions, when compared with advertising, word of mouth or peer observation.<sup>6</sup> Participants in the study were asked to report on all exposure, however no detail was given on whether the exposure occurred in retail, out-of-home, or both.

In out-of-home, one study of moderate quality found an increase in consumer purchases, in the sample of fast-food beef restaurants, as a result of new product promotions. These included exposure to the new product in-premise. The increase in sales was greater than that found for price-based promotions.<sup>5</sup> However, due to limitations in the study sample this is not generalisable to the rest of the out-of-home sector.

## **Influence of in-premise marketing on consumption**

Evidence suggests there may be an association between exposure to in-premise promotions and consumption of HFSS foods in children and young people. In a high-quality systematic review, 14 of 18 included studies provided modest evidence of an association between food promotion and increases in consumption in children and young people. This included increased snacking, higher energy intake and less healthy food choices.<sup>8</sup>

There is insufficient evidence to draw any conclusions for the adult population.

## **3.2 Does in-premise marketing have a differential impact on any population groups?**

The review identified seven studies: one review of systematic reviews (high quality<sup>8</sup>); one systematic review (high quality<sup>51</sup>); one review (weak quality<sup>16</sup>); and four primary studies (one high quality<sup>10</sup>, two moderate quality<sup>13 17</sup> and one weak quality<sup>18</sup>) which provided evidence of differential impact on population groups. The evidence was from high-income countries, with the majority of studies from the USA or Europe; one single study was from the UK<sup>13</sup> and one from Scotland.<sup>10</sup>

Other than the differential effect on children and young people and consumer weight status/impulsivity outlined in the evidence below, there was no evidence found on the differential impact of in-premise marketing between gender, income, social class, deprivation, educational status, ethnicity and geography.

## **Influence of in-premise marketing on children and young people**

There is evidence from a number of studies that children and young people are influenced by in-premise marketing, such as packaging,<sup>8 16</sup> competition and prize-based promotions, checkout displays<sup>10</sup> and value-adding promotions.<sup>8</sup> Evidence from one systematic review of high quality found that the majority of products marketed to children were HFSS food and drink.<sup>8</sup>

One systematic review of high quality suggests that collectible toys increase children's brand awareness and the use of child-oriented marketing techniques, such as bright colours, brand equity characters, and free toys or games, was found to be frequently used to promote high-sugar cereals.<sup>51</sup> A further study of moderate quality conducted in the UK found that brand equity characters can have an influence on younger children's snack food preferences.<sup>13</sup>

One review of weak quality suggested that packaging, such as branding and the use of promotional characters, influences product preferences among children, although not all studies cited in the review found the same strength of effect.<sup>16</sup>

One high-quality study conducted with young people in Scotland found that in the seven days prior to the study, 47% (n=1074) of the young people participating reported that they had bought a product in response to a promotion, such as price (54%), competitions or prizes (12.5%) or checkout displays (12%).<sup>10</sup> These 'in-store promotions' appear to have an equal or greater impact on young people's purchasing than out-of-store promotions such as advertising (12%), sponsorships (6%) and endorsements (3.5%). HFSS foods and drinks made up 68% of the products bought in response to marketing promotions in the sample.

In a moderate-quality survey in a retail environment, 73% of parents of younger children reported that their child made a request for a food item during a supermarket visit.<sup>17</sup> The main reasons the parent felt the request was made was the product packaging or because it was a 'desired' product. HFSS foods made up 88% of these food requests and most parents (70%) purchased at least one of the food items requested during the shopping trip.<sup>17</sup> A high-quality review of systematic reviews also reported frequent purchasing of food items for children in response to a marketing-prompted request.<sup>8</sup>

## **Influence of consumer weight status and impulsivity on the impact of in-premise marketing**

Evidence from one study of weak quality explored the relationship between shoppers' weight status and impulsivity and their responses to commercials and promotions in an online supermarket.<sup>18</sup> In this study, participants were grouped as high or low impulsivity and healthy weight or overweight. The study found that exposure to promotions led to an increase in purchases of snack foods among high-impulsive participants who were overweight, and it did not have a significant effect on those who were high-impulsive and had a healthy weight, or low-impulsive participants.<sup>18</sup>

### **3.3 What is the impact of the individual elements of in-premise marketing on consumer behaviour?**

This review identified 13 studies, one review of systematic reviews (high quality<sup>8</sup>), and 12 reports of primary studies (one high quality<sup>10</sup>), seven moderate quality<sup>5 9 11 12 13 14 15</sup> and four weak quality<sup>28 52 53 54</sup>) that examined the impact of individual elements of in-premise marketing on consumer purchasing and consumption. The evidence was from high-income countries, with the majority of studies from the USA or Europe. Two single studies were from the UK<sup>9 13</sup> and one was from Scotland<sup>10</sup>.

For this review, evidence was found on the influence of positional promotions, product packaging promotions and value-adding promotions. No evidence was found for this review on the impact of free samples, shelf labels or price marked packs on sales of foods high in fat, sugar and salt. The majority of studies focused on the retail environment, with only two of the 16 studies specifically including the out-of-home environment.<sup>5 15</sup> Not all studies provided information on the setting.

## **Influence of positional promotions on consumer purchasing**

Evidence included in this review suggests that positional promotions can have a significant impact on increasing sales,<sup>9</sup> and these promotions were also influential on children and young people's purchasing.<sup>10</sup>

In the retail environment, a moderate-quality UK observational study that controlled for price suggested that an end-of-aisle position could increase sales volumes for carbonated drinks by 51.7%. This suggested an impact on consumer purchasing independent of any price change.<sup>9</sup>

A high-quality study exploring the impact of food and drink marketing on children and young people in Scotland found that checkout displays alone prompted 12% of the reported products purchased within the past seven days, and 84% of these were for high-sugar foods and drinks.<sup>10</sup>

In an out-of-home environment, one study of moderate quality suggested that new product promotions which increased the visibility of new products can deliver a substantial increase in sales, whereas price-based promotions resulted in a lower increase in the store sales.<sup>5</sup>

## **Influence of product packaging promotions on consumer preferences**

Evidence on the influence of product packaging on consumer behaviour comes mostly from experimental lab settings, where the outcomes measured include consumer preference as a proxy for purchasing. Therefore no firm conclusions can be drawn on the impact on actual purchases.

The findings from five weak-quality studies<sup>11 28 52 53 54</sup> and one moderate-quality study<sup>12</sup> did not find a consistent effect of packaging promotions on consumer preferences. The direction of effect appears to be influenced by consumer characteristics. Due to the generally small non-representative sample sizes used across the studies, no firm conclusions can be drawn from this evidence on the impact across adult populations.

For studies which looked at children and young people (one high-quality systematic review<sup>8</sup> and two moderate-quality studies<sup>13 14</sup>) the results were clearer, showing a consistent association between ‘fun’ packaging and children’s product preferences.

The way packaging influences a consumer can depend on the type of consumer and their health motivations. Weak-quality studies<sup>52 53</sup> have found that packaging which featured terms such as ‘natural’<sup>53</sup> and ‘5% fat’<sup>52</sup> can increase consumers’ preference for products. However, evidence from a moderate-quality experiment found that this increase in preference may depend on the consumers’ health motivation and for some health claims on packaging of unhealthy food can in fact decrease perception of tastiness of the product.<sup>11</sup>

Promotional text on packaging may also have an impact on some consumers’ behaviour. One review of weak quality suggested that the inclusion of the statement ‘low fat’ led food to be perceived as healthier and led to an increase in consumption. This effect was observed particularly in people with higher BMI.<sup>28</sup>

The colour of packaging can also convey messages about food products. An experimental study of moderate quality<sup>12</sup> found that pale packaging generated different evaluations of products among adult participants in the study, depending on their health motivations. The study found that products with pale packaging were generally perceived as suggesting that a product was healthy, but consumers who were less concerned about their health also perceived them as less tasty. This suggested that pale packaging may act as a deterrent rather than a nudge towards healthier choices for consumers who are not motivated to buy healthier products. However the study did not consider, beyond shopper motivation, other characteristics of the participants which may have a moderating role, such as self-control and self-efficacy.

A weak-quality experimental study<sup>54</sup> found that atypical packaging changed the way that a product was evaluated. Participants in this experimental study

paid more attention to product claims in products with atypical packaging. If the claim on atypical packaging was perceived as unconvincing they were less willing to purchase the product. Additionally a convincing claim on atypical packaging did not increase their willingness to purchase. This suggests that atypical packaging could work against some products which make unsubstantiated claims due to the increased attention this generates from the consumer. The study used fictitious brands and the sample only included students and therefore the results may not be generalisable.

One high-quality systematic review suggested that the use of packaging and special characters can increase children's preference for products.<sup>8</sup> In addition a moderate-quality study, conducted on children aged 4–8 years in the UK, demonstrated a preference within the sample for foods contained in packaging which featured brand equity characters.<sup>13</sup>

One qualitative study of moderate quality<sup>14</sup> found different perceptions of 'fun' packaging for HFSS food from parents from different socio-economic groups, with groups defined by parental level of education. 'Fun' packaging was characterised as using techniques such as cartoon imagery, movie tie-ins, free gifts, bright colours or interactive play on the packaging. Parents with higher levels of education were more likely to oppose 'fun' foods due to nutritional quality, whereas those with lower levels of education were more likely to praise fun foods as a way of encouraging children to eat. These findings suggest that households with parents with lower levels of education may be more likely to be influenced in their food purchases by packaging elements designed to appeal to children.

### **Influence of value-adding promotions on consumer purchasing**

Overall the evidence suggests that value-adding promotions have an impact on children and young people's product preferences. No studies were found which looked at adult populations.

One review of systematic reviews found studies which indicated that free gifts appear to attract children's attention and increase demand for products.<sup>8</sup>

One study of moderate quality studied four fast-food chains in the USA.<sup>15</sup> Half of the children aged 3–5 years in the study had eaten at fast-food chains in the past seven days; one third of these had eaten at one particular chain in the study. This chain, also common in the UK, used toy promotions three times more frequently than competitors and these toys were often linked to popular children's characters.

Findings from a high-quality cross-sectional survey of young people in Scotland suggests that competition and prize-based promotions may be particularly attractive to young people, with 12.5% of purchases attributed to competition promotions. They were second to price promotions which had 54% of attributed purchases.<sup>10</sup>

### **3.4 Do premises of different types and sizes use different types of in-premise marketing?**

Due to the limitations of the evidence identified in this review, we were not able to interrogate the findings by business type or size.

## 4. Conclusions

The evidence identified in this review suggests in-premise marketing affects consumer purchasing of HFSS foods.<sup>4 5</sup> This effect appears to be influenced by factors such as frequency of exposure to the marketing activity and consumer preferences.<sup>6 7</sup>

In particular, in-premise marketing acts to influence children and young people's product choices. Evidence suggests there may also be an association between exposure to in-premise promotions and consumption of HFSS foods in children and young people.<sup>8</sup> There was insufficient evidence to draw any conclusions for the adult population on an association between in-premise marketing and consumption.

Evidence included in this review suggests that positional promotions can have an impact on increasing purchasing for adults,<sup>5 9</sup> and children and young people.<sup>5</sup>

Overall the evidence suggests that value-adding promotions have an impact on children and young people's product preferences.<sup>8 10 15</sup> No studies were found that focused on adult populations.

Studies which explored the impact of packaging promotions did find variation on whether they increased or decreased consumers' preferences. The influence appears to be affected by the type of consumer, their primary motivation (i.e. whether health or indulgence), and their interpretation of the imagery, colours or text used, which in some cases can lead to a negative evaluation of the product.<sup>11 12</sup> However, for studies which looked at children and young people the results were clearer, showing a consistent association between 'fun' packaging and increasing children's product preferences.<sup>8 13 14</sup>

The findings from this review should be interpreted with its limitations in mind, particularly, that the breadth of marketing activity included in this review was

large and in some areas there were only a small number of studies found exploring the relevant activity. Overall, there are indications from the evidence of the impact of in-premise marketing on consumer purchasing. However, it is difficult to draw any firm conclusions on the impact restrictions may have on consumption from the current evidence. Although no evidence was found that examined the impact of restricting in-premise marketing, this is due to a lack of studies and should not be interpreted as evidence of no effect.

Restrictions on in-premise marketing of HFSS foods could be an effective policy to reduce the over consumption of calories in the Scottish diet from fat and sugar. This would be achieved through reducing the volume of HFSS food purchased by households.

This review also identifies that in-premise marketing approaches are particularly attractive to children and young people. Therefore restrictions may have a larger impact on reducing the purchasing of foods high in fat and sugar in these groups.

## 5. Areas for action

In order to address some of the evidence gaps identified in this paper, future modelling studies may be an effective way of identifying the potential scale of effect from any proposed restrictions on in-premise marketing. Further research is also required to explore in-premise marketing in the out-of-home setting.

Given the lack of evidence on the effectiveness of restrictions on in-premise marketing, a robust monitoring and evaluation framework to track any relevant outcomes, including unintended consequences, should be considered if policies were introduced to restrict the in-premise marketing of discretionary foods in Scotland.

When looking at the implementation of restrictions on in-premise marketing of discretionary foods there may be relevant lessons from the implementation of restrictions on other unhealthy commodity advertising and promotions, such as tobacco and alcohol.

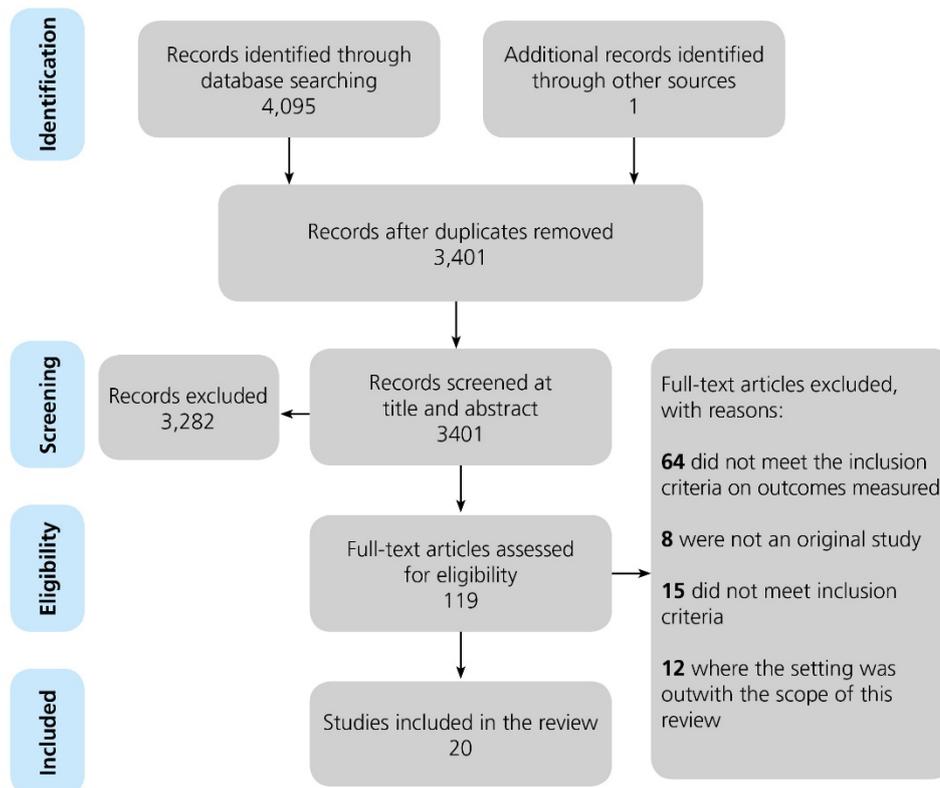
For example, in the case of alcohol, recent experience shows that alcohol producers delayed the progress of public health measures through arguing in favour of self-regulation and a focus on individual responsibility.<sup>55</sup> In the case of tobacco, additional legislation was required to counteract the mitigating actions taken by the tobacco industry when faced with legislative changes that would restrict promotion of tobacco products.<sup>56</sup>

It is also likely that restriction in one area of HFSS marketing would result in other areas becoming more prominent. The greatest gains in public health terms are likely to be achieved through a series of measures, including a focus on price and availability, in addition to HFSS marketing.

## Appendix A: search strategy

- 1 (market\* or retail\* or commerc\* or buy\* or sale\* or sell\* or purchas\*).
- 2 limit 1 to (english language and yr="2012 -Current")
- 3 (advertis\* or promot\* or highlight\* or attention\* or influenc\* or nudg\*).
- 4 limit 3 to (english language and yr="2012 -Current")
- 5 (food\* or drink\* or HFSS or (sugar adj1 sweetened) or (high adj1 fat) or junk or (fast adj1 food) or (high adj1 calorie)).
- 6 ((consumer adj1 behav\*) or (purchas\* adj1 behav\*) or (shop\* or buy\* or purchas\* or consum\*)).
- 7 limit 6 to (english language and yr="2012 -Current")
- 8 1 and 3 and 5 and 6
- 9 limit 8 to (english language and humans and yr="2012 -Current")  
(1044)
- 10 (retail or shop\* or outlet or supermarket or hypermarket or market or convenience or corner or grocery or "out of home" or quick/fast serve or restaurant or café or cafeteria).

# Appendix B: PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) diagram



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