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Towards a regulation of food advertising?

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For 20 years the UK Government has recognised that food advertising plays a part in food choices and hence diets of the population, particularly for children. In 2007 the UK brought in regulations to stop the advertising of less healthy foods on television (TV) during child-specific programming. Less healthy foods were defined using the 2004/2005 nutrient profiling model (NPM) as products high in saturated fat, salt and sugar (HFSS). Evaluations showed that children were still seeing and being affected by the adverts for less healthy foods. To try to mitigate childhood obesity, in 2018, the UK Government announced its intention to consult on further restrictions on the advertising of HFSS products on TV and online. Two years later, the intention to implement a 9pm advertising ban on TV and a further consultation on restricting online advertising of HFSS products was announced. New legislative controls on the advertising of HFSS foods are expected to be brought into legislation in the UK in January 2024. In the present paper, the history of advertising restrictions in the UK and the evidence informing them is reviewed. There will also be a reflection on where further actions might be needed in due course.

Key words: Advertising: Obesity: Nutrition: Nutrition policy

In the UK, advertising of foods high in saturated fat, salt and sugar (HFSS) has been prohibited during children’s television (TV) programming since 2007, in recognition of the role of food and drink marketing as a modifiable risk factor in the development of childhood obesity^(1–3). While unhealthy diets are driven by a range of individual, societal and structural factors, a body of evidence spanning 40 years has established that advertising can affect what children eat, both in the short and longer terms by shaping and perpetuating food preferences. Promoted foods and drinks are typically high in fat and sugar^(1,4) and their advertisement is linked to increased food intake⁽⁵⁾ and increased energy intakes^(4,6) which increases the risk of overweight and obesity⁽⁷⁾. As the prevalence of childhood obesity remains high and for some groups continues to increase over time, the need for more extensive regulation is evident⁽⁸⁾. In January 2024 it is expected

that advertising restrictions for foods and drinks HFSS will be extended beyond children’s programming, to include all TV programming before 9pm, and to online channels with the potential to remove up to an estimated 7.2 billion calories (equivalent to approximately 30.1 billion kilojoules (kJ)) from children’s diets per year in the UK⁽⁹⁾. Over the coming years this could reduce the number of obese children by more than 20 000⁽⁹⁾.

Advertising control milestones

Early evidence of the influence of advertising on children’s food choices

Protecting children from the influence of advertising of HFSS foods and drinks has been on the public health agenda for decades. In the early 2000s the Food

Abbreviations: HFSS, high in saturated fat, salt and sugar; NPM, nutrient profiling model; Ofcom, Office of Communications; SACN, Scientific Advisory Committee on Nutrition; TV, television.

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Standards Agency (who had responsibilities for nutrition at the time) was commissioned by the government to assess the extent and nature of food advertising to children and to determine whether food advertising influenced children's food choices. The systematic review that followed concluded that children are exposed to a lot of food advertising and that the foods advertised were in contrast to government guidelines, and predominantly unhealthy⁽¹⁾. The authors identified five sectors that consistently targeted children through TV advertising: pre-sugared cereal, soft drinks, confectionery, savoury snacks and fast-food outlets. The review found that food promotion can influence what children eat, and that after exposure to HFSS advertising, children were 'significantly more likely' to prefer HFSS foods over healthier alternatives.

Nutrient profile model

To facilitate the promotion of healthier foods to children in 2004–2005 the Food Standards Agency commissioned a research group led by Professor Mike Rayner at the University of Oxford to develop a nutrient profiling model (NPM). The work was overseen by an expert group (nutrition scientists; dietitians; food industry and consumer organisation representatives and policy makers). The development involved extensive modelling and testing of numerous options including the choice of base (per 100 g/100 kJ or per portion) and a category-based model. The development process was subject to rigorous scientific scrutiny which included a literature review, scientific workshop, two public consultations (one on the scientific basis and development of the model and then a second on the preferred model) and discussion and advice from the Scientific Advisory Committee on Nutrition (SACN), an independent committee that advises UK Government on nutrition and related health matters. The finalised model uses a scoring system to evaluate foods both for beneficial components (protein, fibre, fruit, vegetables and nuts) that are important in the diets of children, and nutrients that contribute to poor or unhealthy diets (energy, saturated fat, sodium and total sugar) based on 100 g as sold for foods and drinks⁽¹⁰⁾. Foods and drinks are classified as 'healthier' or 'less healthy' based on their total score with drinks being classified as healthy at a lower score than foods to take into account the dilution of nutrients by liquids.

The UK NPM was adopted by the Office of Communications (Ofcom), the UK's media communications regulator, in 2007 as the tool for assessment of foods for advertising during children's TV programming⁽¹¹⁾. Only products that classified as 'healthier' could be advertised. The Food Standards Agency Board committed to reviewing the impact of the NPM after a year of use to assess its effectiveness. This was also a robust process involving establishing an independent Review Panel, a literature review, academic workshop, two stakeholder consultations and discussions and advice from SACN. Since then, the Food Standards Agency NPM model has been used as the basis for front of pack nutrition labelling schemes in

Australia and New Zealand for the Health Star Rating System⁽¹²⁾ and in some European countries for the Nutri-Score labelling system⁽¹³⁾.

Introduction of advertising regulation

In 2007 Ofcom introduced TV advertising restrictions, banning the promotion of HFSS products during children's programming (4–15 year olds), with the explicit aim to significantly reduce the exposure of children aged under 16 years to TV advertising of food HFSS⁽¹¹⁾.

Ofcom assessed the impact of the advertising controls and concluded that children's exposure to advertising of HFSS products was reduced by 37%⁽¹⁴⁾ and as such the restrictions met their objective. However two independent assessments of the restrictions disagreed, reflecting that over the same time period, there was an increase in HFSS adverts in family viewing programmes and channels, so overall exposure to HFSS advertising was at best, unchanged in children⁽¹⁵⁾ and at worst increased by 50% in all viewers⁽¹⁶⁾. These studies illustrated that the approach to regulation was too narrow to create meaningful change. Advertisers had operated within the restrictions by shifting their food advertising to time slots not classified as children's TV programming, post 6pm, where adults dominate audience figures. Early evening TV schedules, however, contain programmes of appeal to children including talent shows and soap operas, when the numbers of child views remain high.

Current dietary health of children in the UK

The National Diet and Nutrition Survey shows that the average UK child's diet (aged 4–18 years) does not match dietary recommendations and is higher in sugar, salt and saturated fat, and lower in fruit and vegetables, oily fish and fibre than is recommended⁽¹⁷⁾. Since 2008 intake of free sugars as a percentage of total energy has fallen between 3 and 5% for all child age/sex groups, however children in the UK aged 4–18 years continue to consume more than double the daily government recommendation, and only 12% of children aged 11–18 years meet the recommendation to consume at least five portions of fruit and vegetables daily.

Energy intakes in excess of what is required for a healthy body weight lead to weight gain and increased risk of overweight and obesity. Due to the issue of under-reporting in dietary surveys an accurate estimate of energy intake for children in the UK has been calculated using standardised equations to derive energy expenditure⁽¹⁸⁾. Average energy intakes for all children exceed estimated average requirements by between 20 and 100 calories daily (equivalent to approximately 84 and 418 kJ)⁽¹⁸⁾. In children who are living with overweight or obesity, energy intakes exceed recommendations by 140–500 calories daily (equivalent to approximately 586–2092 kJ), dependent on age and sex⁽¹⁸⁾.

Approximately 29% of children in England aged 2–15 years are overweight or obese⁽¹⁹⁾. Of children aged 4–5 years 14% are obese, while 26% of children are obese at age 10–11 years⁽⁸⁾. While obesity is a concern across



all age and sex groups, children living in the most deprived areas are more than twice as likely to be living with obesity than those living in the least deprived areas (20.3 v. 7.8 % for children aged 4–5 years and 33.8 v. 14.3 % for children aged 10–11 years)⁽⁸⁾.

Children's media consumption

In 2019, children aged 4–15 years watched an average of 7 h and 29 min of broadcast TV weekly and it was estimated they were exposed to 2.9 billion HFSS advertising impacts⁽⁹⁾, despite the current advertising restrictions during children's programming.

Over time however TV viewing has declined and other media including online, social media, gaming and content on demand platforms has increased⁽²⁰⁾. Likewise, food companies have changed the balance of their advertising spend. Between 2007 and 2017, online advertising spend on food and drink increased by 450 % and internet advertising accounted for 52 % of all advertising spend⁽⁹⁾.

In the UK, 93 % of 12–15 year olds own a mobile phone and 61 % of 5–15 year olds own a tablet. In addition, 55 % of 5–15 year olds used social media channels in 2020 with use increasing with age to 87 % of 12–15 year olds⁽²⁰⁾. As such, digital advertising is ubiquitous and pervasive. Much of the advertising and product placement, particularly in highly targeted environments of social media platforms is designed to be indiscernible from the content and may affect children's behaviour without them being able to identify the advertising⁽²¹⁾. A recent study of 832 American 13–17 year olds found that when presented with 'traditional' print or online banner adverts and Instagram advertising of unhealthy food and drinks the adolescents incorrectly identified traditional adverts as Instagram posts suggesting that social media advertising may not be perceived as marketing⁽²²⁾. In the same study, the adolescents also preferred Instagram advertising of unhealthy foods over traditional format advertising, echoing a recent narrative review⁽³⁾ that found evidence that the high levels of user engagement in digital marketing amplify the effect of marketing beyond passive exposure and exert influence over peers' attitudes and responses to commercial content.

Impetus for further restrictions

In 2015, SACN reviewed the evidence on the relationship between dietary carbohydrates and health⁽²³⁾. Their report highlighted the link between excess sugar intake, particularly from sugar-sweetened beverages, and poor health outcomes, including increased risk of weight gain and type 2 diabetes in children and adolescents⁽²³⁾. The committee recommended that the average UK population intake of free sugars should be reduced by half and should not exceed 5 % of total dietary energy for age groups from 2 years upwards. SACN also recommended that consumption of sugar-sweetened drinks should be minimised by both adults and children⁽²³⁾. The recommendations were accepted by Ministers and became part of the official UK Government advice⁽²⁴⁾ on nutrition in the same year.

In response to the SACN report, Public Health England (PHE) published 'Sugar Reduction – The evidence for action' which served as a catalyst for change in national diet policy⁽⁷⁾. Based on a number of evidence reviews focusing on how to reduce the nation's sugar consumption and move towards SACN's recommendations, eight evidence-based policy recommendations were made which focused on the structural drivers of poor diet, such as price, advertising, promotion and food composition, as opposed to information and education. PHE were clear that the provision of information on products and the education of the public is an important foundation of healthier choices but alone they would not tackle the nation's dietary problems given the highly obesogenic environment where less healthy food is ubiquitous.

One of PHE's recommendations was that the marketing and advertising of high sugar food and drink products for children and adults should be further restricted across all media. Although, the report highlighted that the combination of the eight suggested recommendations would be necessary to effectively reduce sugar intakes across the population, food marketing and advertising was identified as one of the key factors influencing sugar intakes⁽⁷⁾. The report noted that online advertising in particular had increased exponentially since the 2007 Ofcom restrictions on TV advertising during children's programmes^(7,11) and products considered to be less healthy were heavily advertised through these unrestricted channels⁽⁷⁾.

PHE's conclusions on advertising were based on a mixed-methods review on the health and behavioural impacts of marketing and advertising gathered since 2010, after the Ofcom restrictions had been implemented⁽²⁵⁾. As in previous systematic reviews^(1,2), the review found consistent evidence of moderate quality that advertising has an effect on food preference, choice and consumption in children⁽²⁵⁾. These findings were also supported by more recent systematic reviews which reported that TV, advergame and internet advertising for less healthy foods increases immediate food intake in children^(6,26–28).

Evidence from a meta-analysis of experimental studies showed that on average, exposure to 4.4 min of food advertising on TV increased a child's food consumption by 60 calories (equivalent to approximately 251 kJ) compared to non-food advertising⁽⁶⁾. Moreover, the real-life advertising exposure of children in the UK is most likely higher as, commercial TV shows have up to 12 min of mixed advertising per hour and children watch more than 6 h weekly⁽²⁰⁾.

Russell *et al.*⁽⁶⁾ also agreed with the findings of Halford *et al.*⁽⁴⁾ that children with overweight or obesity appeared to be more vulnerable to the influence of food advertising on TV, consuming on average 45.6 calories (equivalent to approximately 191 kJ) more after exposure than children with healthy weights. This is an important finding given the high prevalence of childhood obesity in England. In addition, although Boyland *et al.*⁽²⁶⁾ suggested that acute experimental exposure to food advertising did not increase food intake in adults, the evidence from the mixed-methods review showed consistently

that advertising influences preference, choice, purchase and consumption of food and drinks high in sugar and other less healthy foods also in adults⁽²⁵⁾. However, the evidence in adults was of limited quality⁽²⁵⁾.

Rationale for food marketing restrictions

Current restrictions on HFSS TV programme advertising only address children's TV programmes, that is programming where children do not dominate the audience. However, children do not only watch TV programmes aimed at them but also watch TV programmes later in the evening with family. From 3pm onwards the number of children watching TV increases with a peak between 7 and 8pm⁽²⁹⁾ when HFSS accounts for almost 60% of advertising⁽³⁰⁾.

The Obesity Health Alliance, noted in their report 'A "Watershed" Moment: Why it's Prime Time to Protect Children from Junk Food Adverts'⁽³¹⁾ that 49% of children's TV viewing takes place in family viewing time where HFSS restrictions on advertising do not currently apply. They reported that of the adverts shown during family viewing time, 59% of those promoting foods and drinks on children's TV programmes. Just 1% of food and drink advertisements were for fruit and vegetables during family viewing time⁽³¹⁾. Obesity Health Alliance reported that adverts for fast food and take-aways appeared more than twice as often as any other type of food and drink adverts, and this was associated with sponsoring popular family shows.

Mytton *et al.*⁽³²⁾ estimated that if the TV adverts were moved to after 9pm instead of being withdrawn, then the impact on childhood obesity could be decreased by two-thirds. There is also evidence that further advertising restrictions may reduce health inequity as children from more financially vulnerable households watch more TV⁽²⁹⁾ and are therefore exposed to more HFSS advertising than children in less financially vulnerable households⁽³³⁾, and that these children are also more likely to be living with obesity⁽⁸⁾ and may be more responsive to HFSS promotion⁽⁴⁾.

In addition, content consumption and viewing habits have changed so children aged 12–15 years spend more time online than watching broadcast TV⁽³⁴⁾. Consequently in 2019, Department of Health and Social Care analysis indicated that children continue to be highly exposed to HFSS; an estimated 2.9 billion impacts for on TV and 11 billion impacts online⁽³⁵⁾.

Reducing the exposure to food advertising is likely to improve the food choices children make and therefore, reduce the intake of unhealthy foods. Small energy reductions in energy intake on a daily basis could lead to longer-term reduction in excess energy intake in children⁽³²⁾ resulting in improved long-term health outcomes^(6,27). The Department for Digital, Culture, Media & Sport (DCMS) impact assessment in 2021 estimated that there would be significant health and economic benefits from the introduction of a 9pm watershed on HFSS: children across their lifetime would benefit from 84 000 quality adjusted life years, equivalent to £1.9 billion when monetised⁽⁹⁾. Additional economic benefits would

also arise from the National Health Service (NHS), social care and premature mortality savings⁽⁹⁾. It is estimated that children would experience additional health benefits associated with reduced obesity-related ill health. It is also estimated that children with overweight and obesity would experience greater benefits due to higher energy reduction⁽⁹⁾. It is however important that other drivers of less healthy food choices do not increase or the effects of advertising controls would be reduced.

Advertising restrictions and other policy actions designed to limit HFSS foods are also likely to encourage reformulation of products so that they are more likely to be classified as 'healthier'. The twin effect of such policies on individuals' food preferences and choices, and on products, will be hard to quantify but experience of other policies such as multiple traffic light front of pack food labels in the UK, where nutrition standards have been set, suggests that they will be meaningful.

It is the duty of states to effectively protect children from HFSS food marketing under Article 24 of the UN Convention on the Rights of the Child that mandates States Parties to respect and fulfil the child's right to the highest attainable standard of health⁽³⁶⁾. Taking into consideration the high level of exposure to HFSS advertising in children, the increasing childhood obesity levels and the data that children are not meeting dietary recommendations together with robust evidence that HFSS advertising has an effect on food consumption and preference, it is clear that further action is needed to ensure that children in the UK attain the highest standard of health.

Food and drink industry arguments against further restrictions

The Food and Drink Federation, a trade body representing food and drink manufacturing across the UK, have argued that introducing additional advertising restrictions before 9pm will disproportionately affect adults rather than children (20:1 in their estimation) given that the majority of adult viewing takes place before 9pm⁽³⁷⁾. Considering the high rates of obesity in adults in the UK, reduced HFSS advertising exposure may also have positive effect on adults^(9,25).

The Food and Drink Federation also argue that the evidence base for the proposed watershed advertising restrictions is limited and that the energy reduction in children is too minimal to exert an effect on children's energy balance⁽³⁷⁾. Whilst the evidence relating to long-term effects of food advertising is scarce, a modelling study by Mytton *et al.*⁽³²⁾ estimated that if all HFSS advertising between 05:30 and 21:00 was removed, children (aged 5–17 years old) in the UK would see on average 1.5 fewer advertisements daily, which would reduce daily energy intake by 38 kJ (95% UI 2.1–74 kJ). The modelling study estimated that this could decrease childhood obesity rates by 4.6% (95% UI 1.4–9.5) and with overweight (including obesity) by 3.6% (95% UI 1.1–7.4)⁽³²⁾.

The Food and Drink Federation also raised concerns that more extensive advertising restrictions would make advertising products that had been reformulated or

created in smaller portion sizes in line with the government's reformulation programme more challenging due to the products still failing the NPM (2004/2005)⁽³⁷⁾. The Food and Drink Federation stated that rather than rewarding reformulation progress, the new advertising restrictions would penalise it⁽³⁷⁾. However, the PHE Sugar reduction report⁽⁷⁾ emphasised that no single action will be effective in reducing sugar intakes and therefore, the combination of actions will be necessary. The actions included advertising restrictions as well as reformulation initiatives. This was further supported by the DCMS impact assessment⁽⁹⁾.

Watershed moment

Policy steps and pending legislation

In 2019 the government consulted on how to best reduce children's exposure to HFSS advertising in order to reduce children's overconsumption of these products⁽³⁸⁾. A total of 1736 responses were received: 92% of responses were from individuals, 6% from organisations including academia, health-related non-governmental organisations, local authorities and 2% from businesses (advertising, broadcasters, food manufacturers and retailers, out-of-home food providers and online platforms)⁽³⁸⁾. The consultation received strong support for introducing a watershed for HFSS products to broadcast TV with 79% in agreement and online with 73% in agreement.

In 2020 the government consulted on a total online restriction of HFSS advertising reflecting children's changing media habits which are migrating from TV to online. The spending on food and drink online advertising increased by 450% between 2010 and 2017⁽³⁹⁾, reaffirming the need for a total ban on advertising to children to ensure they are protected from HFSS advertising.

At the time of writing, there is currently pending legislation on restricting advertising of HFSS foods and drinks in specific categories due for implementation in January 2024. The categories are mostly those included in PHE's sugar and energy reduction programmes (Table 1). The restrictions include banning HFSS advertising on all TV programming before 9pm, including broadcast and on-demand services under UK jurisdiction; on all paid advertising online including non-UK on demand and streaming services, videos, advergaming, search engines and on social media including paid advertising and influencer marketing. Excluded from the proposed restrictions are brand advertising, radio, unpaid social media and online, direct to consumer, outdoor advertising, cinema, direct mail and smaller businesses.

Systems approach and reflections/lessons learnt

Restrictions on HFSS advertising alone is not enough to stop the increasing prevalence of childhood obesity in the UK⁽⁷⁾. Controls on advertising are part of a whole systems approach to address excess energy in the diet, subsequently leading to overweight and obesity.

Table 1. Products in scope for further advertising restrictions for products high in fat, salt and sugar

Soft drinks with added sugar
Juice drinks with added sugar
Milk drinks with added sugar
Crisps and savoury snacks
Breakfast cereal
Chocolate confectionary
Sugar confectionary
Ice cream
Cakes
Sweet biscuits
Morning goods
Pudding and dairy desserts
Yoghurts
Pizza
Chips and potato products
Family meal centres
Complete main meals (ready meals)
Breaded and battered products
Out-of-home
Main meals
Starters, sides and small plates
Children's meal bundles
Sandwiches

Source: Annex 1 Introducing further advertising restrictions on TV and online for products high in fat, salt and sugar: government response (June 2021).

Since 2017, the UK wider policy package on tackling childhood obesity has included legislative measures such as the soft drinks industry levy which saw the majority of soft drinks manufacturers reformulate to remove sugar from products to avoid the levy; energy labelling at the point of choice for food sold by larger fast food outlets, cafes, restaurants, takeaway and delivery chains from April 2022⁽⁴⁰⁾. In addition to the legislative measures there are voluntary programmes; Sugar Reduction Programme and Calorie Reduction Programme which are structured, closely monitored and openly report changes in sugar and calories. Legislative and voluntary measures are complemented by national weight management services, Better Health and Change4Life marketing campaigns in England.

Next steps

In the UK a second key piece of legislation is pending aimed at improving the nation's health. It seeks to limit in-store (in physical shops and online) promotion of HFSS food and drinks by both location (end of aisle, checkout and store entrance (due to come into force in October 2022)) and by volume based ('buy one get one free' or '3 for 2' (due to come into force in October 2023))⁽⁴¹⁻⁴³⁾. This will be the first time the promotions of food and drinks will be restricted in the UK and could be seen as an extension of advertising restrictions; companies often link TV advertising to in-store promotion.

Food companies are businesses so need to maintain or grow sales. As the majority of leading global food

businesses sell HFSS products⁽⁴⁴⁾, then it is inevitable that there will be tensions between regulators seeking to improve diets and companies seeking to sell more products.

Advertising of HFSS products is ubiquitous in environments in which we live, work and play, including on streets and transport systems and through grassroots (including children's), national and international sports sponsorship. Much of the advertising is not product specific but is brand based. None of these types of advertising are captured in the current or pending restrictions, also out of scope is unpaid for advertising including direct to consumer email and social media, or targeted internet advertising. It seems likely that further restrictions will need to be considered particularly given the growth in obesity and the increase of food energy sales seen during the pandemic⁽⁴⁵⁾.

Conclusions

The advertising of HFSS food and drinks is prolific across various media such as TV, online and outdoors. With 49% of children's TV viewing takes place in family viewing time where HFSS restrictions on advertising do not currently apply⁽³¹⁾, it's vital the restrictions on advertising are extended to reduce exposure to HFSS food and drinks. Restrictions on advertising alone are not enough to tackle the prevalence of childhood obesity, they are part of a package of voluntary and mandatory measures which provide a whole systems approach to tackling obesity.

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