

Children's exposure to TV advertising of food and drink

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Executive summary

Key findings

Since 2007, it has not been permitted to advertise food and drink that is high in fat, salt or sugar during children's television programmes.

Food and drink that is high in fat, salt or sugar is advertised only on non-children's television. Recently, there have been calls to extend these restrictions, because the current regulation covers only a small share of the television adverts that children see.

In 2015, 50% of the television advertising for food and drink that children saw was for food and drink that is high in fat, salt or sugar or was for restaurants and bars.

39% of the television adverts for food and drink seen by children were for food and drink that is high in fat, salt or sugar and a further 11% were for restaurants and bars, the majority of which are fast food outlets.

70% of the television advertising that children saw for food and drink high in fat, salt or sugar and for restaurants and bars was shown before the 9pm watershed.

Extended restrictions that covered pre-watershed programming would have affected advertising of products high in fat, salt or sugar. Adverts for restaurants and bars would be restricted if they featured products high in fat, salt or sugar. Up to 35% of the TV adverts for food and drink that children saw in 2015 would have been affected had restrictions applied before the watershed.

Background

In 2016, the government introduced the first wave of its childhood obesity strategy, which outlined a number of steps the government would take with the aim of 'significantly reducing England's rate of childhood obesity within the next ten years'.¹ Recent discussion around the possibility of a second wave of the strategy has led to calls from health campaigners and leaders of all the main opposition parties to extend current restrictions on when certain kinds of food and drink can be advertised on television.²

The current restrictions, which have been in place since 2007, ban the advertising of food and drink that is high in fat, salt or sugar during children's television programmes.³ The policy now being called for is to extend this ban to cover all advertising before the 9pm watershed. This means that advertising of food or drink that is high in fat, salt or sugar would not be permitted before 9pm.

In this briefing note, we describe the timing and nature of children's viewing of TV advertising for food and drink in the UK in 2015. We describe how the advertising that children were exposed to varied across the day, how much occurred during children's programming, how much occurred prior to the 9pm watershed (and so would be within the scope of a potential extension of the restrictions), and how much was for products that were high in fat, salt or sugar.

Data

We use data from AC Nielsen on all adverts for food and drink products broadcast on television between January and December 2015. The data include details on what brands or products were advertised, the channel on which the advert was shown and what programmes ran either side of the advert. The data also contain information on 'child impacts' for each advert, provided by the Broadcasters' Audience Research Board (BARB). Impacts are a widely used industry measure. The number of impacts is equal to the number of pairs of eyes that view the advert, so two impacts could refer to two different people viewing the advert once, or one person viewing the advert twice. Children are defined as those aged 4–15.

BARB calculates the number of child impacts by using a panel of 5100 homes, with each representing about 5000 other similar households across the UK. Households are given a remote control with a button on it for each member of the household (and a button to register the presence of guests); each individual must press their button each time they enter or leave the room while the television is on.⁴ Each household's TV is fitted with a meter, which records 15 seconds of audio from the TV advert and matches this to a reference library.

¹ <https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action>

² <https://cdn.jamieoliver.com/home/wp-content/uploads/2018/04/Childhood-Obesity-Letter.pdf>

³ The restrictions were introduced in 2007 to cover programming aimed at children aged 4–9. The regulation was extended in 2008 to additionally cover programmes aimed at pre-school children and children aged 10–15.

⁴ <http://www.barb.co.uk/about-us/how-we-do-what-we-do/>

We combine the advertising data with information on the nutrient content of products from the Kantar Worldpanel for 2015. Foods are classified as being high in fat, salt or sugar (or HFSS) for the purposes of the regulation on the basis of the nutrient profiling model, which is an index based on the nutrient content of a food or drink product. This converts the nutritional composition of the product into a single 'nutrient profile score'; foods and drinks that have a score above a threshold are not permitted to be advertised during children's programming. Details are provided in the appendix.

We use the Kantar data to compute the nutrient profile score of each product and match these to the products that are covered by each advert. We refer to products that are above the threshold as HFSS, and those that are below the threshold as non-HFSS. This allows us to classify adverts shown in 2015 into those that would be affected by the proposed extended restrictions, based on the 2015 nutrient content of the products or brand featured in the advert.

There are two important caveats to this analysis, as follows.

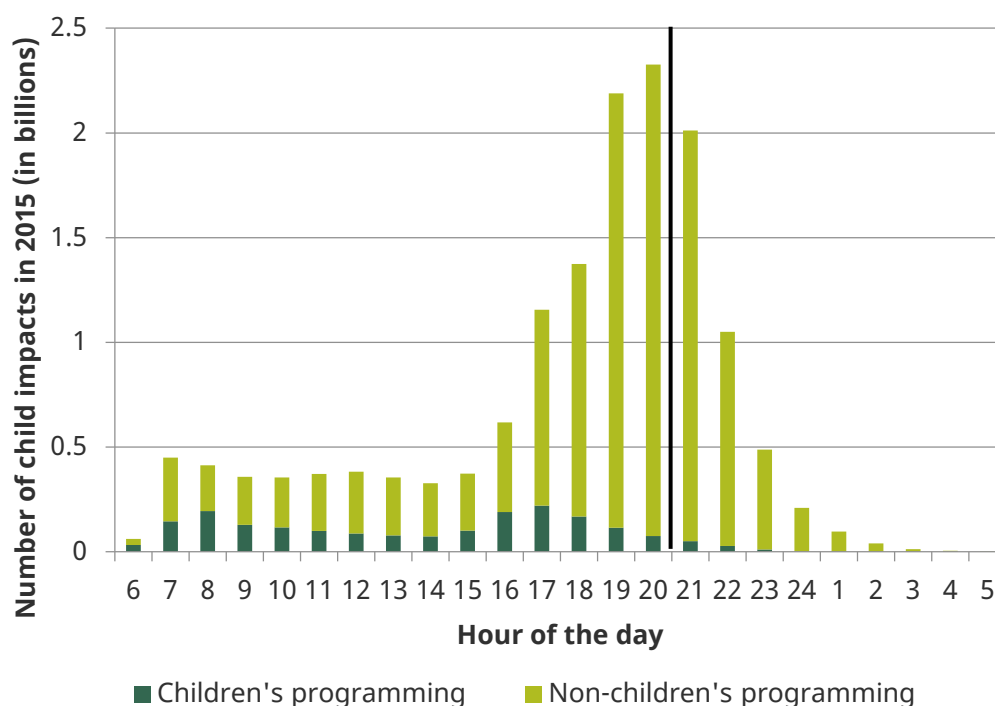
- We use data for 2015. The adverts shown and the nutrient content of products advertised in this period may be different from those currently advertised.
- We identify children's programming on the basis of the channel and genre of the programme provided in the AC Nielsen data. This is not the same as the definition used by the regulator, who define children's programming as television on children's channels or where at least 25% of the audience are children (see the appendix for details).

Most of the TV adverts for food and drink that children see are not during children's TV but are prior to the 9pm watershed

Figure 1 shows the number of child impacts for food and drinks during 2015 by hour of the day, starting from 6am. The dark vertical line indicates the 9pm watershed. The largest number of child impacts occurred in the two hours prior to the watershed (7pm-9pm).

The dark green segment of each bar indicates impacts for adverts that appeared during children's programming, when the current restrictions apply. This accounted for 13% of TV advertising for food and drink that children viewed in 2015. Given current restrictions, this is made up of only advertising for food and drink that are non-HFSS.

Figure 1. Children's exposure to advertising of food and drinks products by hour of day and programming type



Note: Children's programming is defined on the basis of the channel and genre of the programmes before the advert. Impacts are summed over all advertising slots in 2015.

Source: Authors' calculations using data from AC Nielsen and BARB data.

74% of the advertising that children saw was prior to the watershed; this portion of advertising would be brought into the scope of the restrictions if the regulation were extended to cover all pre-watershed advertising.

Adverts often advertise multiple products

The current restrictions apply to adverts for products that are HFSS in accordance with a threshold defined by the nutrient profiling model published by the Food Standards Agency in 2005.⁵ However, adverts often feature a brand or a product range, so cover many products. In many cases, all of the products that are covered by the advert are either HFSS or non-HFSS. However, in some cases the set of products that are covered by the advert include some that are HFSS and others that are non-HFSS. For example:

- an advert for the Coca Cola range that includes Diet Coke, which is not HFSS, and Original Coke, which is HFSS;

⁵https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/216094/dh_123492.pdf

- an advert for a supermarket ranges such as Aldi – Food & Drink, which covers a very large range of products;
- an advert for a restaurant or bar such as McDonald's, which covers a range of products.

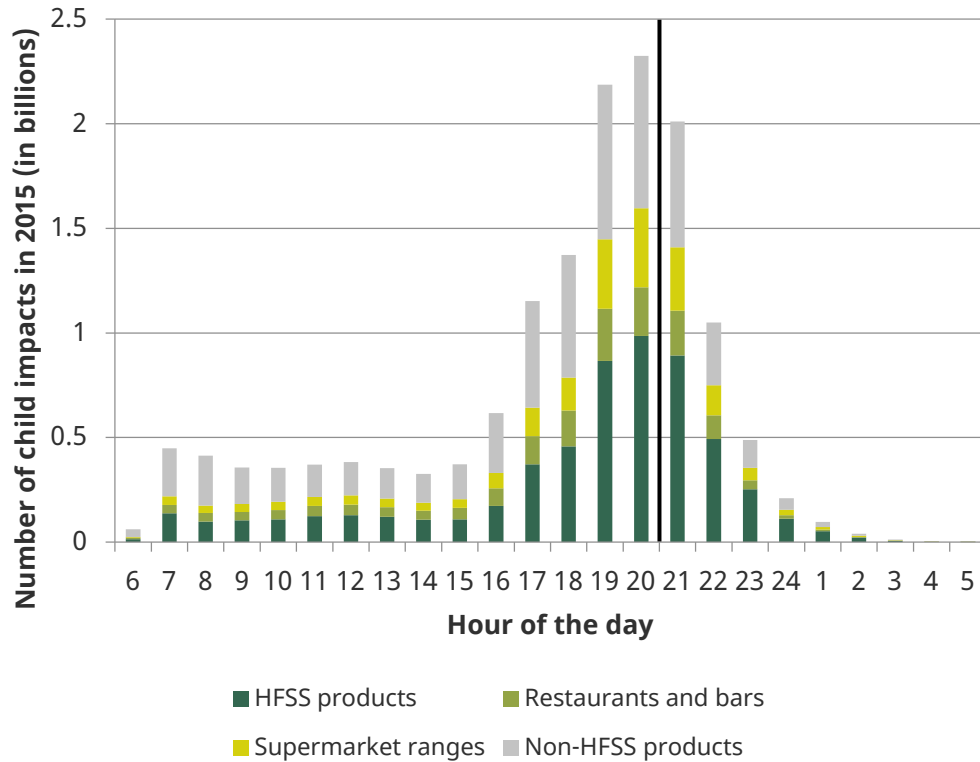
A large portion of the TV advertising for food and drink that children see is for brands or products high in fat, salt or sugar

In Figure 2, we break down child impacts for adverts for: (i) products that were HFSS; (ii) restaurants and bars; (iii) supermarket ranges; and (iv) products that were not HFSS. For product ranges, such as Coca Cola, which include some products that were HFSS and some that were not, we have apportioned the child impacts to the HFSS and non-HFSS groups in proportion to the market share of those products (based on the number of transactions in the Kantar data in 2015).

Figure 2 shows the following.

- 50% of the TV advertising for food and drinks that children saw in 2015 was for products that are HFSS or for restaurants and bars:
 - 39% was for products that were HFSS (or 32% if we do not count the adverts for sets of products that include some that are HFSS and some not, which we have apportioned impacts on the basis of market share);
 - 11% was for restaurants and bars, the majority of which was for fast food chains (over half of this was for McDonald's).
- The remaining 50% was for supermarket ranges and for products that were below the threshold:
 - 37% was for non-HFSS products (or 31% if we do not count the adverts for sets of products that include some that are HFSS and some not, for which we have apportioned impacts on the basis of market share);
 - 13% was for supermarket ranges.
- 70% of impacts for HFSS food and drink and restaurants and bars occurred before the 9pm watershed.
- This means that up to 35% of the food and drink adverts that children saw in 2015 would have been directly affected had restrictions applied before the watershed.

Figure 1. Children's exposure to advertising of food and drinks products by hour of day and advert type



Note: HFSS products are those foods with a nutrient profile score equal to or above 4, and drinks with a score equal to or above 1. We allocate the impacts for adverts for multiple products that span the threshold on the basis of market shares in the Kantar data.

Source: Authors' calculations using data from AC Nielsen, BARB data and the Kantar Worldpanel.

In future work at the Institute for Fiscal Studies, we plan to look at how extending the current advertising restrictions might affect the total amount of sugar and calories that households and individuals purchase.

Appendix

1. Defining children's programming

The restrictions on advertising foods and drinks on children's programming have been in place since 2007; the code was written by the Committee of Advertising Practice (CAP)

– see Committee of Advertising Practice (2010).

CAP Code 32.5.1: The following may not be advertised in or adjacent to children's programmes or programmes commissioned for, principally directed at or likely to appeal particularly to audiences below the age of 16: food or drink products that are assessed as high in fat, salt or sugar (HFSS) in accordance with the nutrient profiling scheme published by the Food Standards Agency (FSA) on 6 December 2005.

The restrictions are enforced by the Advertising Standards Authority (ASA). This requirement means that adverts for HFSS foods and drinks do not appear in 'children's media' (i.e. where under 16s are the main target audience) or other media where under-16s make up more than 25% of the audience. Marketers are expected to provide evidence to support their advertising placement choices.

The data provided by Nielsen specify the programmes that were shown before and after the advert, and the channel on which they were shown. They also provide a classification of the genre of the programme shown before the advert (but not after). We identify children's programmes as those that are either in the AC Nielsen genre 'Children' or shown on cable channels that are identified as aimed at children.

2. Numbers underlying Figure 1

Table 2.1: Children's exposure to advertising of food and drinks products by hour of day and programming type

Hour of day	Child impacts (in billions)	
	Children's programming	Non-children's programming
6	0.03	0.03
7	0.15	0.30
8	0.19	0.22
9	0.13	0.23
10	0.12	0.24
11	0.10	0.27
12	0.09	0.30
13	0.08	0.28
14	0.07	0.25
15	0.10	0.27
16	0.19	0.43
17	0.22	0.93
18	0.17	1.21
19	0.11	2.07
20	0.08	2.25
21	0.05	1.96
22	0.03	1.02
23	0.01	0.48
24	0.00	0.21
1	0.00	0.10
2	0.00	0.04
3	0.00	0.01
4	0.00	0.00
5	0.00	0.00

Notes: Children's programming is defined on the basis of the channel and genre of the programmes before the advert. Impacts are summed over all advertising slots in 2015. Source: Authors' calculations using data from AC Nielsen and BARB data.

3. Calculating the nutrient profiling model scores

3.1 The nutrient profiling model

The nutrient profiling model (NPM) is described by the Department of Health (2011) as follows.

The nutrient profiling model was developed by the FSA to provide Ofcom, the broadcast regulator, with a tool to differentiate foods on the basis of their nutritional composition, in the context of television advertising foods to children.

The model is a simple scoring system where points are allocated on the basis of the nutrient content of 100g of a food or drink. Points are awarded for 'A' nutrients and for 'C' nutrients. The score for 'C' nutrients is then subtracted from the score for 'A' nutrients to give the final nutrient profile score [note that when a product scores 11 or more 'A' points' and less than 5 points for FVN, 'C' points do not include points from protein].

Foods scoring 4 or more points, or drinks scoring 1 or more points, are classified as 'less healthy' and are subject to Ofcom's controls on the advertising of foods to children on TV.

Figure 3.1: 'A' and 'C' point thresholds by nutrient

1. Work out total 'A' points

A maximum of ten points can be awarded for each nutrient.

Total 'A' points = (points for energy) + (points for saturated fat) + (points for sugars) + (points for sodium)

The following table indicates the points scored, depending on the amount of each nutrient in 100g of the food or drink:

Points	Energy (kJ)	Sat Fat (g)	Total Sugar (g)	Sodium (mg)
0	≤ 335	≤ 1	≤ 4.5	≤ 90
1	>335	>1	>4.5	>90
2	>670	>2	>9	>180
3	>1005	>3	>13.5	>270
4	>1340	>4	>18	>360
5	>1675	>5	>22.5	>450
6	>2010	>6	>27	>540
7	>2345	>7	>31	>630
8	>2680	>8	>36	>720
9	>3015	>9	>40	>810
10	>3350	>10	>45	>900

If a food or drink scores 11 or more 'A' points then it cannot score points for protein unless it also scores 5 points for fruit, vegetables and nuts.

2. Work out total 'C' points

A maximum of five points can be awarded for each nutrient/food component.

Total 'C' points = (points for % fruit, vegetable & nut content) + (points for fibre [either NSP or AOAC]) + (points for protein)

The following table indicates the points scored, depending on the amount of each nutrient/food component in 100g of the food or drink:

Points	Fruit, Veg & Nuts (%)	NSP Fibre ' (g)	Or AOAC Fibre ' (g)	Protein (g)
0	≤ 40	≤ 0.7	≤ 0.9	≤ 1.6
1	>40	>0.7	>0.9	>1.6
2	>60	>1.4	>1.9	>3.2
3	-	>2.1	>2.8	>4.8
4	-	>2.8	>3.7	>6.4
5*	>80	>3.5	>4.7	>8.0

Note: The total nutrient profile score is calculated as 'A' points minus 'C' points. In cases where a product scores 11 or more 'A' points' and fewer than 5 points for FVN, 'C' points do not include points from protein.

3.2 Kantar Worldpanel nutritional data

In order to analyse the advertising patterns of products by NPM score, we match the advertising data from AC Nielsen to information on the nutritional composition of food and drink products from the Kantar Worldpanel. The Kantar data contain information on the energy, sugar, saturated fat, salt, protein and fibre content at the barcode level. For a small number of products that did not appear in the Kantar data, we have calculated the NPM scores using nutrient information from other sources.

The fruit, vegetables and nuts (FVN) content is not recorded in the Kantar data. To calculate the FVN content of a product, we categorise products into those that are 0% or 100% FVN on the basis of their product category. In order to be awarded any C points for FVN, the product must be at least 40% FVN. The only product types that we believe this to be the case for are sauces, spreads, soups and juices. For all other product types that are not 100% FVN, we award 0 points for FVN. For sauces, spreads, soups and juices, we consider those products that, when assigned an FVN score of 0, have an NPM score above the threshold but within 5 points of the threshold (i.e. if assigned the maximum number of points for FVN, the product would drop below the threshold). For each of these brands, we look up the ingredients and calculate the FVN content.

We apply the NPM to these data in order to calculate the NPM score for each product. We match the brand variable in the advertising data to the set of products in the Kantar data that belong to that brand.

Adverts for products with an NPM score above or equal to 4 for foods and 1 for drinks are currently not permitted during children's programming. In order to describe which adverts are for products that are above or below this threshold we define three sets of adverts, as follows.

- 1) Adverts for brands that contain products all of which have an NPM score below the threshold.
- 2) Adverts for brands that contain products all of which have an NPM score equal to or above the threshold. We treat alcohol as having an NPM score that is above the NPM threshold, given that it is not allowed to be advertised during children's programming.
- 3) Adverts for brands (or ranges) that contain some products with an NPM score that is below, and some products with an NPM score that is above or equal to the threshold. This category includes three types of adverts:
 - a) Product ranges, such as Coca Cola – Range, where Diet Coke is below the NPM threshold and Original Coke is above the threshold;
 - b) Supermarket ranges, such as Aldi – Food & Drink, which are too broad to sensibly categorise as above or below the NPM threshold;
 - c) Restaurants and bars, such as McDonald's, which sells products both above and below the NPM threshold.

For product ranges, we allocate child impacts from adverts to the above or below categories in proportion to their market shares, based on the number of transactions for products that are above or below the threshold in the Kantar data.

4. Numbers underlying Figure 2

Table 4.1: Children’s exposure to advertising of food and drinks products by hour of day and advert type

Hour of day	Child impacts (in billions)			
	HFSS products	Restaurants & bars	Supermarket ranges	Non-HFSS products
6	0.01	0.01	0.00	0.04
7	0.14	0.04	0.04	0.23
8	0.10	0.04	0.04	0.24
9	0.10	0.04	0.04	0.17
10	0.11	0.04	0.04	0.16
11	0.12	0.05	0.04	0.16
12	0.13	0.05	0.05	0.16
13	0.12	0.05	0.04	0.15
14	0.11	0.04	0.04	0.14
15	0.11	0.05	0.04	0.17
16	0.17	0.08	0.07	0.29
17	0.37	0.14	0.14	0.51
18	0.46	0.17	0.16	0.59
19	0.87	0.25	0.33	0.74
20	0.99	0.23	0.38	0.73
21	0.89	0.21	0.30	0.60
22	0.49	0.11	0.14	0.30
23	0.25	0.04	0.06	0.13
24	0.11	0.02	0.03	0.06
1	0.05	0.01	0.01	0.02
2	0.02	0.00	0.01	0.01
3	0.01	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00

Notes: HFSS products are those foods with a nutrient profile score equal to or above 4, and drinks with a score equal to or above 1. We allocate the impacts for adverts for multiple products that span the threshold on the basis of market shares in the Kantar data. Source: Authors’ calculations using data from AC Nielsen, BARB data and the Kantar Worldpanel.

Appendix references

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