



Putting health in the spotlight: quantifying the impact of obesity prevention policies in the UK

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Executive Summary

For children and adults in the UK, unhealthy food is in the spotlight everywhere they go. Online, on our TVs, and in our supermarkets, promotions and advertising put calorie-dense and unhealthy food centre stage. The promotion, affordability, availability and consumption of such foods are among the main drivers of obesity,¹ one of our most serious public health challenges, threatening the health and wellbeing of adults and children alike.²

This report examines the impact of four obesity prevention policies either recently implemented by the UK government, or scheduled for future implementation, finding that their combined net benefit to the UK over 25 years is estimated to be over £76 billion. These policies work to push unhealthy food out of the spotlight and redress the balance with the healthy food that children need to thrive. The first three policies relate explicitly to HFSS (high in fat, sugar, or salt) food and drink products, while the fourth is a tax on sugary drinks:

- **In-store location restrictions, implemented in October 2022;**
- **Restrictions on volume-based ‘multi-buy’ promotions, scheduled for future implementation;**
- **A 21:00-05:30 watershed on TV, and online restrictions, for paid advertising, scheduled for future implementation;**
- **The Soft Drinks Industry Levy (SDIL), implemented in April 2018.**

In England, overweight or obesity affects more than one third of children aged 10-11, as well as the majority (63%) of adults.^{3,4} Overweight and obesity increases the risk of heart disease, stroke, type 2 diabetes, and cancer,⁵ and costs the NHS an estimated £6.5bn per year, as part of an overall cost to society of up to £54 billion per year.⁶ Obesity also exacerbates inequities: children growing up in more deprived areas are at much higher risk of suffering from obesity than their more affluent peers.⁷

When advertising, promotions, and product placement actively encourage us to consume unhealthy foods, it is clear that we need policies that modify this obesogenic environment. This is consistently reflected in the scientific literature: interventions that change the environment to make healthy food the easy, affordable, and attractive option can effectively help us to live more healthily.⁸ These interventions can include ensuring that healthy rather than unhealthy foods are given the spotlight in prominent store locations,^{9,10} setting up policies that encourage industry to produce affordable and healthier products for everyone,¹¹ and protecting children from being bombarded with advertisements of HFSS foods.¹² Ensuring that food advertisements and marketing promote healthy options is particularly important to protect our children’s health, as 6.4% of UK childhood obesity has been attributed to HFSS TV advertising in a recent study.¹³

In appropriately targeting these environmental factors, the four evidence-based policies are of substantial benefit to the UK, both from a health and economic perspective. Cumulatively, the UK government has estimated that these four obesity prevention policies will contribute a total net present social value (NSPV) to the UK of between £1.75 billion to £296 billion over 25 years, with a mid-range best estimate of over £76 billion. While there are some costs to

industry associated with the implementation of these policies (£6.3bn), these are significantly outweighed by the benefits to society - in the form of NHS savings (£4.5bn), social care savings (£5.1bn), increased economic output and productivity (£7.2bn), and health benefits to individuals (£62bn). We examine some of the assumptions underpinning the government's own analysis of the policies, finding that on a whole it is more likely that benefits, rather than costs, have been underestimated. Finally, we discuss how such obesity prevention policies enjoy considerable public support, and how they positively address existing social and health inequalities.

The health and economic benefits of obesity prevention policies

Recent governments have taken heed of the available evidence and implemented policies designed to modify the food and drink choice environments to make healthy consumption easier (the Soft Drinks Industry Levy, and restrictions on end-of-aisle placement of HFSS foods). The current government is planning to implement two further similar policies in 2023 (restricting volume promotions of HFSS foods) and 2024 (introducing a watershed for paid TV and online advertising of HFSS foods). In this report we summarise the published impact assessments of these four policies, and examine their associated costs and benefits. In doing so we highlight the potential (for both health outcomes and the economy) of policies that go with the grain of human behaviour:

- **Restricting checkout, end-of-aisle, and store entrance sales of food and drinks high in fat, salt, and sugar (HFSS)**
- **Restricting volume promotions for high fat, sugar, and salt (HFSS) products**
- **Introducing a 2100-0530 watershed on TV and online restriction for paid advertising of food and drink that are High in Fat, Salt and Sugar (HFSS) products**
- **Soft Drinks Industry Levy (SDIL)**

While many recent studies cite the widely referenced annual cost of obesity in the UK as being £27 billion, this is based on a 2007 report by the Government office for Science.¹⁴ More recent estimates calculated in 2022 suggest that the current annual full cost of obesity in the UK is as high as £54 billion,¹⁵ within which there is an estimated annual spend of £6.5 billion by the NHS on obesity-related disease.¹⁶ Wider non-NHS costs also made a significant contribution to this £54 billion figure, including loss of productivity and social care costs that are estimated to account for £7.5 billion.¹⁷ Adding the cost of unemployment benefits paid to people with obesity would increase overall estimate by around £4 billion.¹⁸ As noted in the government's Impact Assessments for the policies under consideration,

*"[I]ndividuals face only some of the costs associated with ill health as universal healthcare ensures the financial costs are borne by the taxpayer. Consequently, the health costs associated with overconsumption of HFSS products are passed on to society and are not just experienced by the individual. In economic terms, this is referred to as a negative externality."*¹⁹

Furthermore,

“Without action, the burdens of obesity and its related conditions are expected to grow substantially over time. Projections suggest that the proportion of the UK adult population who are obese will increase significantly over the coming decades”²⁰

The UK government has estimated that these four obesity prevention policies will contribute a cumulative net present social value (NPSV) to the UK of between £1.75 billion to £296 billion over 25 years, with a mid-range best estimate of £76 billion (£76,607m). A summary of the benefits, costs, and NPSV of each policy can be seen below in Table 1. In the context of the four policies being evaluated, the NPSV is the sum of the projected benefits and costs accruing to government, wider society, and industry (including retailers, manufacturers, and advertisers where relevant). The expected benefits include improvements in quality of life and health outcomes for individuals, cost savings to the NHS and social care, and projected changes in worker productivity and economic output due to a healthier population. The range of costs include transition and enforcement costs associated with each policy, and transition costs and expected reductions in revenue and profit across a range of industries (notably retailers, manufacturers and advertisers).

Assumptions underpinning each impact assessment drive the overall NPSV estimate. The largest component of the estimated benefits is the expected improvement in health outcomes for individuals (which are separate from the cost savings for the NHS and social care services). These individual health benefits are quantified as ‘Quality Adjusted Life Years’ (QALYs), a measure of disease burden which incorporates both quantity and quality of life lived; and the overall NPSV estimates are very sensitive to the value placed on each QALY. The impact assessments being examined here use a value of £60,000 for each QALY gained. This figure is slightly lower than the “*current monetary WTP [Willingness to Pay] value for a QALY is £70,000 in 20/21 prices*” set out in The ‘Green Book’ (‘Central Government Guidance on Appraisal and Evaluation, 2022’).²¹

There are some key omissions from the Impact Assessments that could mean the benefits have been underestimated. For example, an assumption within the government’s modelling of the effects of a 21:00-5:30 watershed for paid advertising of HFSS products on TV and online is the relationship between calorie consumption and food advertising. Based on a 2018 meta-analysis funded by the National Institute for Health Research Policy the Impact Assessment provides a central estimate that on average for children, the additional calorie consumption caused by 1 minute of food advertising is 14.2kcal. The inverse of this, that on average children will reduce their calorie consumption by 14.2kcal for every minute of food advertising that they do not see (between 21:00 and 05:30), underpins the estimate of £2,258 in benefits accruing from this policy. However, the meta-analysis finds that overweight children consume 57% more calories than healthy weight children after being exposed to HFSS advertising.²² If overweight and obese children are more affected by advertising, the

figure of 14.2kcal may have significantly underestimated the benefits for these groups, and therefore the overall health benefits of the policy.

Even more significantly, the government's Impact Assessment for the watershed policy does not account for the health and economic benefits accrued from the short- and medium-term impact of the advertising restrictions on adults, instead focusing exclusively on the long-term impact on children. While the Impact Assessment does acknowledge that the impact of the policy on adults is not included in the estimated NPSV, recent independent analysis of this policy argues that it should be considered to comprehensively model the associated benefits.²³

Though these projected benefits are estimated to substantially outweigh the costs to industry, we cannot ignore the potential downsides that may fall on food manufacturers, retailers, and advertisers. For instance, in the case of the watershed on paid for advertising of HFSS food products, the government's impact assessments projects a loss of £659 million in advertising spending over 25 years. However, losses previously projected in advance of the introduction of similar policies in the past have not materialised, so it is possible that the figure of £659 million is an overestimate. Following restrictions on content and scheduling for the advertising of HFSS products implemented between April 2007 and January 2010, both an interim (2008)²⁴ and a final (2010)²⁵ review of their impact by Ofcom could not establish evidence of any material impact on overall broadcasting revenues in either case. Furthermore, in relation to the expansion of these restrictions in the proposed watershed policy, Cancer Research UK has argued that up to *"79% of potential revenue loss from removing all HFSS adverts on TV could be mitigated against by companies advertising their existing non-HFSS products instead of promoting their HFSS ones"*.²⁶

Similarly, focusing on the Soft Drinks Industry Levy which has already been implemented, industry fears about a loss of revenue have largely not materialised. The levy has encouraged producers of added sugar soft drinks to reformulate their products to fall outside the scope of the policy; and encourages importers to procure reformulated drinks with low added sugar to enable consumers of soft drinks to shift to healthier options. While some commentators argued that this policy would result in significant losses for industry, the well documented evidence since implementation in 2018 does not bear this out, and sales of beverages subject to the SDIL have not decreased.^{27,28} A 2021 review of the SDIL in the British Medical Journal stated that *"[t]he SDIL might benefit public health without harming industry"*.²⁹ We expect that the advertising watershed, locational restrictions on HFSS products and restrictions on volume based promotions of HFSS products will incentivise food producers to adopt healthier recipes. Indeed, there are reports that many UK brands have begun to reformulate their products in response to the HFSS restrictions within the policies under analysis,³⁰ and in a similar vein retailers may adapt to position non-HFSS products more prominently than the HFSS products now subject to restrictions, without loss of profit. In short, while government must be sensitive to the potential impact of these policies on industry, advertisers and manufacturers have largely been agile enough to mitigate the negative impacts associated with such policies thus far.

Focusing on the costs, the methodology used to calculate the costs of a prospective policy does not take into account the potential costs to consumers, for example by distorted competition within certain markets. Indeed, the government's Regulatory Policy Committee in 2020 published a paper in which it acknowledged that this aspect of analysis was missing from the impact assessments as they were formulated at the time.³¹ While it proposes incorporating these wider societal costs into future impact assessments, it is worth noting that the 'Total costs' seen in Table 1 below are possibly underestimated due to this omission.

Whilst acknowledging the limitations in the methodology of the four Impact Assessments, we think they provide the current best estimate for the potential health and economic benefits of these initiatives. Above all they provide a compelling case for obesity prevention policies that are built on an evidence-based understanding of 'what works' to make eating well easier.

Table 1. Benefits, costs, and NPSV of selected obesity prevention policies (*all values are £m over 25 years*)

Policy	Total Benefits [range]	Health benefits (central estimate)	NHS savings (central estimate)	Social care savings (central estimate)	Increased economic output (central estimate)	Total Costs [range]	Costs to industry (central estimate)	Enforcement costs (central estimate)	Transition costs (central estimate)	Net Present Social Value [range]	Implementation status (as of 01/11/2022)
Soft Drinks Industry Levy (SDIL) ³²	3,956 ³³					2 ³⁴				3,954	Implemented 06/04/2018
Restricting locational sales of HFSS products ³⁵	73,648 [0; 344,971]	57,600	4,364	4,896	6,788	5,496 [1,625; 24,652]	5,448	0.5	47.3	68,152 [-1,625; 279,789]	Implemented 01/10/2022
Restricting volume promotions for HFSS products ³⁶	3,065 [0; 8,915]	2,390	180	212	283	149 [50; 336]	143	1.1	4.7	2,916 [50; 8,579]	Scheduled for implementation 01/10/2023 ³⁷
Introducing a 2100-0530 watershed on TV and online advertising of HFSS products ³⁸	2,258 ³⁹ [108; 4,238]	2,049	50	40	119	673 [640; 735]	659	9	5	1,585 [-627; 3,598]	Scheduled for implementation 01/01/2024 ⁴⁰
Total	80,669	62,039	4,594	5,148	7,190	6,320	6,250	10.6	57	76,607 ⁴¹	

Note: For the Soft Drinks Industry Levy, official government estimates of the breakdown of benefits and costs are not publicly available.

Public support for obesity prevention policies

While the health and economic benefits outlined above offer clear justification for implementation and retention of the policies under analysis, another crucial factor to consider is whether obesity prevention policies also have broad public support. There is strong evidence that a majority of the UK public support a wide range of obesity prevention policies, including those examined in this report. For instance a 2022 study by the Behavioural Insights Team, analysing the responses of a sample of 5,791 adults representative of the UK population, found that of 14 obesity prevention policies put to respondents, all were supported by a majority of the sample.⁴²

Interestingly support was greatest (over 90%) for policies that involved providing more ‘education’ and better ‘nutritional information on food’. Policies that alter the food environment, and therefore hold greater potential for preventing obesity, enjoyed more moderate positive support: a policy proposal to restrict advertising of unhealthy foods received 75% approval, while a proposal to regulate the placement of food within shops received 76% approval. We think that this discrepancy could be explained by the fact that people are more likely to support the policies they *think* are effective. Contrary to the evidence base, respondents rated education as the policy proposal most likely to be effective (75%) with taxation of unhealthy foods perceived to be the least effective (51%). This perhaps highlights an opportunity to increase support for structural obesity prevention policies by increasing public understanding of their likely effectiveness.

Obesity prevention in addressing social and health inequalities

One important dimension to consider when discussing obesity prevention policies is the differential impact of obesity across different socioeconomic groups. As stated in the government’s Impact Assessments,

*“[t]he challenge and harms of obesity disproportionately affect the most deprived groups in society. Children growing up in low income households are around twice as likely to be obese as those in higher income households. Hospital admissions directly attributable to obesity were around four times more likely in the most deprived areas (33 per 100,000 population), compared to the least deprived areas (8 per 100,000 population). Children from black, Asian and minority ethnic group families are more likely than children from white families to be overweight or obese. The prevalence of obesity in black women is almost double that in white women. Those with learning difficulties are far more likely to be obese than the general population”.*⁴³

In turn, the health outcomes for those who are overweight or obese are significantly worse than for those who are not:

“Being overweight is the biggest single preventable cause of cancer after smoking and causes 13 types of cancer. It is estimated 40,000 deaths per year in England are attributable to being overweight or obese (over 10% of all deaths).⁴⁴

The outbreak of the COVID-19 pandemic showed that people who are overweight or living with obesity who contract COVID-19 are at greater risk of being seriously ill and dying from the virus. Excess weight is one of the few modifiable factors for COVID-19, and the Government has been clear that there is an urgent need to help support people to achieve a healthier weight and do all that they can to improve the health of the public both now and in the future.⁴⁵

Recent data from Public Health England (2018, now The Office for Health Improvement and Disparities) reveal that *“England’s poorest areas are fast food hotspots, with 5 times more outlets found in these communities than in the most affluent”*.⁴⁶ In short, obesogenic environments are more likely to exist in less wealthy neighbourhoods. This is particularly relevant when considering the impact of advertising for HFSS products, and the plans to implement restrictions on such advertising in January 2024. Policies that aim to prevent obesity by modifying food environments are not only likely to improve the health of the nation as a whole, but also to contribute to addressing social inequalities in health outcomes.

As the cost of living crisis increases the pressure on those families living on lower incomes, it is valuable to highlight findings from Public Health England’s Sugar Reduction review⁴⁸ which conclude that while volume promotions can make each item of food cheaper, they also tend to encourage people to buy greater volumes of promoted foods, and greater overall volumes of food and drink than normal. This suggests that volume promotion offers are primarily adding excess calories to people’s diets rather than helping them to save money. Furthermore, the proposed restrictions will only restrict volume offers on HFSS foods, so retailers will be free to offer volume deals on products that don’t fall into this category, or discounts on individual HFSS products. The end result of this policy should be a reduction in the proportion of HFSS foods in shoppers’ baskets rather than an increase in the overall cost of the basket.

Conclusion

Our food environments are purposefully designed to make HFSS food and drink available, cheap and visible. A wealth of evidence from applied behavioural science has shown us that we are more likely to take options that are easy, attractive and presented to us at the right moment.⁴⁹ In order to level the playing field, we can act on what we know, and modify our food environments to make eating well the easiest thing to do. We have therefore welcomed the policy expansion from communication and educational interventions towards an approach that addresses the obesogenic environment.

This report has put a spotlight on four obesity prevention policies either already implemented or scheduled to be implemented in the coming two years. Impact assessments published by the government have shown that all four policies can substantially reduce the number of excess calories consumed with little conscious effort required on the part of individuals and families. By removing these excess calories from the food system these policies will have knock-on effects for people's health outcomes and quality of life for years to come. These health benefits, quantified and valued as QALYs, account for the majority of the estimated £76 billion NPSV to be realised over the next 25 years, in addition to projected productivity gains and savings for the NHS and social care.

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33. This is based on the UK government's estimation that the SDIL will raise £240m per year. Discounted over 25 years at a discount rate of 3.5% (that is used in the government's Impact Assessments for the other policies under analysis), the net present value of these benefits is £3,956m. Note that the figure of £240m is based on 2018 prices, and so adjusting for inflation since then would lead to a higher valuation.
34. The costs associated with this policy have largely already been incurred, given that the policy was announced in the government's 2016 Budget, and implemented in April 2018. As is outlined below, many manufacturers began product reformulation even before the implementation of the policy, and when sales of these reformulated products are taken into account, overall sales of soft drinks have not decreased, based on the latest available evidence [see footnotes 36 and 37 below]. Average annual enforcement costs for this policy are estimated (based on the Impact Assessments for the other policies under review), to be less than £100k, which discounted at a rate of 3.5% over 25 years has a net present social value of under £1.7m. To be conservative, we have stated this as £2m.
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39. The government's Impact Assessment for this policy reports the benefits accruing over 100 years, unlike over 25 years as in the other Impact Assessments for the policies under consideration. This is because this policy is uniquely targeted at children, and therefore will see benefits accrue over a longer period of time. It can be reasonably argued that the policy will also have positive impacts on the adult population also, and this is discussed below as a reason for considering the NPSV of the policy to be £1,585m to be conservative.
40. Based on the most recent available information as at 01/11/2022.
41. N.B. Figures in Table 1 are largely based on UK government estimates from 2018 and 2019. While inflation may have been accounted for in these estimates, it has accelerated at historical rates during 2021 and 2022, meaning that the overall figure of £76.6 billion would likely be larger in magnitude if recalculated today.
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