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#### Introduction

Similar to the United Kingdom (UK), around 60% of adults and 26.9% of children are overweight or obese in Wales[1]. Many physical and mental health conditions associated with being over-weight are problematic for individuals, and they also place a significant burden on health and care provision across many sectors from hospitals to schools, and community associations [2],[3].

Exposure to unhealthy food advertising often occurs as part of people's everyday mobility and contributes to unhealthy eating, weight gain and obesity[4]. For example, research in the U.S. predicts people living in areas where no food is advertised are 2.6% less likely to be obese than those living in areas where 30% of outdoor advertisements were for food[5].

There are currently limited restrictions on the placement of public high fat, sugar, or salt (HFSS) food and drink products in the UK except for policies implemented in London and Bristol, and voluntary industry restriction on HFSS food and drink ads placed near to schools.

Despite the harmful influence of HFSS ads on people's health, local authorities are generating income through arrangements with marketing companies that broker public advertising space to food and drink manufacturers and outlets. Local authorities commonly use this strategy to fund public transportation.

There has, until recently, been very little pressure on local authorities (LAs) and the industry to restrict the use of HFSS food and drink adverts in public. But the need to ensure LAs and advertisers are responding to health concerns cannot reasonably be ignored, particularly following the Covid-19 pandemic. Obesity was found to be a risk factor of severe respiratory conditions associated with the virus[6].

# An integrated transport and health approach to healthy diets

People are exposed to advertisements in public as they go about their everyday travel with advertisements present on bus shelters, on street signs, and on billboards at roadsides, or on properties, many of which are classified as unhealthy.

Studies carried out in various cities have found the amount of space taken up by promotion of HFSS food and drink ads varies, but consistently holds a significant share of advertising space. For example, a study of Northern England cities found that 62% of all food advertisements in bus shelters promoted McDonalds[7]. The study also found that 4.5% of bus shelter ads were promoting alcoholic drinks. A study in Scotland reports 22% of bus shelter ads were marketing confectionary and fast-food products[8]. A study in Sydney cites 28% of ads in the city's train network were promoting food and of these, 84% were unhealthy[9].

Placing HFSS food and drink ads in the places people move through and within are creating unhealthy environments that influence consumers and are counterproductive to the promotion of active travel and healthy lifestyles.

Tackling the issue of unhealthy food advertisements to reduce obesity has remained largely with the remit and interest of public health policy makers, practitioners, researchers and campaigners. However, an integrated approach involving transport policy-makers and industry stakeholders is necessary given the substantial placement of advertisements across spaces where people use public transport, including under-18s.

### Unhealthy advertisements and health inequalities

There is a significant difference in prevalence of excess weight between the most and least deprived areas of the UK. Currently, in Wales, the number of adults classified as obese in the most deprived areas is 10 percentage points more than in the least deprived areas[10]. The local authority area with the highest prevalence of obesity is Merthyr Tydfil where 20.7% of children are obese[11]. This is more than double that of the local the Vale of Glamorgan and Monmouthshire, with the lowest prevalence of child obesity at 8.6%; both of which are more affluent areas of Wales.

Current evidence has not sought to determine a causal link between HFSS food advertisement placement and its impact on health inequalities, however, it suggests that some people are more exposed to unhealthy adverts than others.

Market interest steers advertising companies to place advertisements in built up urban areas with higher pedestrian footfalls[12]. People spending more time in dense urban spaces are more exposed to and affected by advertising including both healthy and unhealthy ads[13]. The extent of unhealthy advertisements across cities means that people living in the more deprived neighbourhoods generally in dense, inner-city, areas are exposed to them. The socio-economic makeup of inner and densely populated areas of cities is variable, particularly on a global scale. Many affluent communities are exposed to unhealthy ads too, but it is common in the Euro-American context, that house prices are higher in less dense urban and rural places in which there is less advertising space[14],[15].

A study in New York finds that areas with a higher proportion of Black residents are more exposed to advertisements and therefore unhealthy food content because of the prevalence in advertisement space in such areas[16]. Similarly, a study in California demonstrated that unhealthy food ad space was most dense in low-income neighbourhoods with high proportions of Latino and African American residents, which had five times the unhealthy food ad space compared to high-income neighbourhoods, with predominantly White residents, and six times that of lowincome neighbourhoods with predominantly White residents[17]. In Liverpool, research has found that people living in inner-city areas of varying levels of deprivation are more exposed to advertisements, including university students and people of Asian identities[18]. In Melbourne, there is evidence of unhealthy advertising content targeted at public transport stops to a greater extent in the most deprived areas of the city[19].

### We need to give people a consistent message that demonstrates their health and wellbeing are valued.

But this isn't the approach that most governments are choosing. Businesses are enabled to promote their products despite the negative impact they have on population health in the interest of advertising freedoms and the revenue this generates. For example, in Edinburgh, a conscious decision was made by the local authority not to restrict the advertising of HFSS food and drink following a consultation with their advertising partner, JCDecaux, due to concerns around potential revenue losses calculated by JCDecau[20].

The Advertising Standard Agency (ASA) is a body set up by the UK advertising industry to regulate itself. It formed to uphold public trust in commercial advertisements and thus, the strength of advertisements, by filtering out misleading advertisements. It suggests "commercial product advertising cannot reasonably be expected to perform the same role as education and public information in promoting a varied and balanced diet but should not undermine progress towards national dietary improvement by misleading or confusing consumers" [21].

Responsibility for maintaining good health is placed on the individual and not on the food or advertising industries, or on the institutions that own public assets where adverts are commonly placed.

An article in the British Medical Journal quotes Christina Marriott, Chief Executive of the Royal Society for Public Health, commenting on the Government's obesity strategy for England[22]. Marriot calls for "a commitment to overhauling the obesity causing environments we live in. Simply passing the buck to the individual with another healthy eating campaign will not turn the tide on this silent epidemic . . .Unless the government has the courage to stand up to industry where it matters—taxing unhealthy foods and restricting the relentless bombardment of junk food and its advertising".

Business rights are widely protected across the UK and elsewhere at the expense of public health and public rights. That is the right to move around in spaces free of advertisements that harm people[23]. Meanwhile, the principle of individual consumer choice and proactive healthy eating fails to recognise that consumer freedom is diminished by a lack of affordable, high quality, food available to people wanting (increasingly) to eat out.

# UK advertising industry self-regulates and responds only to individual complaints

Local government Town and Country Planning (Control of Advertisements) Regulations 1992 require consent for the placement of advertisements in public space (with several exceptions) in the interests of amenity and public safety. Planning permission does not generally control the content of advertisements. No consent is required for advertisements placed in rail or bus stations, or on vehicles if their sole purpose is not for advertising, such as on buses or taxis. Planning permission does not generally control the content of advertisements.

The ASA is the UK body responsible for regulating the content and placement of advertisements in broadcast (TV and radio) and non-broadcast media (public and digital spaces). It was established by the industry, which is self-regulating. The ASA's Committee on Advertising Practice (CAP) writes and maintains the non-broadcast advertising code (the CAP code). The ASA is responsible for administering the code, dealing with complaints, and having advertisers remove non-compliant advertisements.

A key regulation in place on HFSS product advertisements in public space and in public transport is under CAP 15.18. That is, HFSS food and drink ads must not be directed at under-16s through the selection of media or the context in which they appear and no medium with an audience that consists of more than 25% of under-16s should be used to advertise HFSS products[24].

The code has been used by advertising companies to restrict the placement of static HFSS food and drink ads within 100-meter distance of schools[25]. The Scottish Government, however, recently requested the ASA to strengthen the implementation of its CAP code by requesting removal of static HFSS food ads located within a radius of 800 metres of any site with 25% or more footfall by under 16-year-olds, including schools[26].

Part of the reason why this safeguarding regulation has not led to healthier ad content in other places commonly used by children is the difficulty of demonstrating over 25% of an advert's audience is under 16. The charity Sustain [27] highlight how the ASA determined an unhealthy ad on a bus acceptable because it was likely to pass through locations representative of the general population. The proportion of under 16's in the UK is 17.8% of the population and falling [28].

The 25% figure appears to be arbitrarily chosen to indicate a significant audience of the public that are likely to view an advertisement based on its location and which signifies a targeted approach to advertising. ASA do not provide a methodology that is available publicly that justifies how and why the 25% proportion of an audience was selected to be a plausible threshold.

In relation to gambling advertisements CAP state, the '25% test' "ensures age-restricted ads in non-broadcast media (including gambling and lotteries) are placed only in mixed-age media where adults are the overwhelming majority of the audience (in other words 75% or more) [29]." CAP suggest that taking steps to reduce exposure to age-restricted ads might occur by reducing this figure to 5%, for example, would, "involve restrictions in media that are overwhelmingly adult-oriented, thus fundamentally changing the underlying policy approach of delivering proportionate regulation that balances the legitimate commercial freedoms to Gambling Commission-regulated gambling operators, and the appropriate protections that should be afforded to under 18s." CAP suggest when up to a quarter of an advert's audience are under 16 years, there are still measures in the regulatory process that are designed to protect children. For example, advertisements of HFSS products should not appeal to children through use of visual culture they associate with.

Contrarily, the Audience Index methods used to assess TV audience viewings are far more robust because Broadcast Audience Research Board (BARB) metrics are available that provide precise information about audience demographics for all programmes and channels at various timings[30]. Unless a complaint is made against an individual advertisement leading to a review, the industry assumes, with the exception of schools, the footfall within public space is made up of a general demographic audience, regardless of temporal and spatial factors. There may be sufficient data to evidence this, but if there is, it is not made readily available.

The problem with this is that although on average those under 16 years of age consist of less than 25% of the population, there are many residential areas and circumstances where proportions of under 16 years of age are 25% and over. The latest census data shows in Cardiff, 5 Middle Layer Super Output Areas (MSOA), have a population comprising of 25%, or more, under 16-yearolds. These are some of the most deprived areas of the city. In Ely East, this figure is 32%. If you consider under 18s (the legal definition of a child), 11 out of 49 MSOAs in Cardiff have a child population of over 25%.

We could assume the footfall around an advertisement might be indicative of the demographic of a local area, but the way people travel through space is not straightforward. For example, considering bus stop advertisements, we should be analysing who uses and passes certain bus stops across a city and at different times of the day, week and year, to ensure HFSS product ads in public space are regulated to the same extent as TV ads.

It is possible to attain data on bus passengers, when assessing audiences of adverts in bus stops and in some cases, advertising companies can produce footfall data. However, assessing the precise fluctuation of children and young people passing a bus stop at any time, by car, bus, foot, or otherwise, on a specific route is more difficult.

Currently, HFSS food ads are not restricted in areas where families tend to go on holiday and where children spend their free time, nor are they restricted near leisure centres, cinemas, or retail areas[31]. The regulation is particularly limited in addressing seasonal tourism, whereby families and children congregate in larger numbers congregate in distinct places, such as seaside resorts and towns and heritage attractions. The Welsh Tourist board data shows that 72% of family households (two parents and children) are visiting heritage sites including parks, castles and historic places of worship[32]. The same trend can be seen with museum visits and art events. There has been no research into the kind of advertisements placed around popular family tourist attractions.

# Adults are not safeguarded from HFSS food and drink or alcoholic drink advertisements

It is beneficial to safeguard children who may be more easily influenced by HFSS product ads and who are developing health problems from an early age. But there is a question as to why advertisement policy is only focused only on safeguarding the health of children while the number of adults classified as overweight or obese far outweighs the equivalent number of children.

University students can be particularly exposed to advertisements given their tendency to live in central urban areas. Cathays North and South are two areas of Cardiff where most residents are 18-25 (64% in Cathays North and 74% Cathays South[33]). Here, the existence of HFSS product ads placed on bus shelters throughout the area is an example of advertising directed to one demographic group because of the demographic composition of the area. Six wards in Cardiff have populations of 18-25 years olds comprising over 25% of the population. Yet, there is no regulation in place that would protect these young people from advertisements being directed at them through the context in which ads are placed.

### Current regulation targets products and less-so brands

A limitation to the current regulation of HFSS food ads is the differentiation between HFSS product advertising and brand advertising. For example, Transport for London's advertising policy recently banned HFSS food and drink advertisements across its estate. It still allows brands to advertise zero calorie alternatives across their network if they are suitably labelled to identify low, or zero, sugar content. Brands synonymously associated with processed and HFSS items can also advertise products that are not calculated as being HFSS if healthier options are also sold by the brand. This means that brands associated with HFSS food and/or drinks, can continue to hold a significant share of advertisement space to attract customers to their outlets who then must rely on their own will power to choose the healthy option. TfL's policy on HFSS product ads is one of the strictest in the UK but it is still light touch enough to encourage industry to adapt its menus and advertisements to minimize the impact of its HFSS products on public health while minimizing impact to those businesses and the advertising industry.

### Brands investing in socially beneficial activities are less likely to be assessed as synonymous with HFSS products by the industry regulator

In cases when an advertisement refers to or features a brand name that is synonymous with a specific HFSS product, but may be shown with a product that is not identified as HFSS, the ASA must assess whether a brand is synonymous with an identity other than the provision of HFSS products to determine if the advertisement can be differentiated from a HFSS product advertisement. One consideration is the proportion of non-HFSS food/drink options sold by the brand, which should be about 50% to ensure an ad is not considered to promote a HFSS product through association with its brand. But, the CAP guidance also states "the ASA will take account of factors such as [...] association with significant initiatives relating to education, sport, community etc. [...] the advertisement is less likely to be regarded as one for an HFSS product if its theme relates exclusively to social responsibility, good causes etc." [34].

This approach could encourage brands to invest in projects that offer positive outcomes to communities as a means of offsetting the negative impact they have on people's health. The approach is unchallenged despite a lack of evidence that socially good causes actually counteract the negative impact of HFSS food and drink advertised to communities.

## A shift toward tighter restrictions on harmful public advertisements

The UK policy paper 'Tackling Obesity: government strategy'[35] recognises the need for the public to receive healthy messaging about food consumption. However, its strategy does not set out to change policy on outdoor advertisements and those on public transport and bus shelters. Contrary to the UK government's approach, the Welsh government (with devolved powers) have more clearly defined an approach to restrict outdoor advertisements and are committed to working with Transport for Wales to reduce HFSS food advertisements.

In 2019, the Welsh government proposed that by 2030 there would be a ban on advertising, sponsorship and promotion of foods high in saturated fat, sugar and salt in public spaces in Wales. This would include in bus and train stations, sporting events, family attractions, schools (including close to), hospitals, leisure centres and other public spaces. They also promise an increase in the promotion of healthier alternatives and incentivising products which support positive choices[36].

In their 2022 two-year plan, the Welsh Government have shifted language away from a ban, but state they will "ensure that our food environment is more targeted to healthier options to make the healthy choice, the easy choice". HFSS will not be advertised to children and young people (although they do not detail how they will ensure this). The Welsh Government state they will promote healthier food options across on-board catering on public transport and within local communities[37]. The Welsh Government aim to increase access to advertising of healthier foods on public transport and are working with other public bodies to support a shift in the food offer and consider limiting HFSS advertising. The Mayor of London and Transport for London (TfL) have led the way in banning unhealthy advertisements across their transportation and property[38]. TFL's policy prohibits direct and incidental advertising of HFSS foods and non-alcoholic beverages, as defined by the Department of Health's Nutrient Profiling Model (NPM). Based on consultation with industry, companies can apply to advertise a product through an exceptions process if they can demonstrate that the product is not consumed by children and does not contribute to childhood obesity. The policy was designed to tackle child obesity only. Advertisements for some food categories (e.g., chocolate and confectionery) and for brands that do not produce non-HFSS products as part of their range were to be completely removed from the TfL network.

Haringey, Southwark and Merton local authorities have also banned HFSS food advertisements on councilcontrolled advertising space. Southwark Council have banned alcohol advertisements as well as tobacco products, nudity, sexual messaging services , gambling, betting and hateful or discriminatory content to further support the overall health and wellbeing of Southwark's residents. Bristol City Council have followed suit and announced a more comprehensive strategy choosing to ban harmful products including HFSS products, alcohol and gambling.

# Local government authorities face challenges in tightening restrictions on harmful ads

Consumption of HFSS food and drink reduces with regulations that restrict marketing of products[39],[40] so it isn't surprising there is strong industry opposition against tighter regulations. Some companies find it easier to adjust advertisements than others and the impact of policy changes are likely to affect some retailers more than others. For example, those with diverse products ranges and non-food related companies that may have been using HFSS foods to attract attention can easily remove these from their ads[41]. A study that analysed consultation responses submitted to the task group responsible for developing the TfL's advertisement policy changes has found that most of the opposition consists of marketing companies and companies manufacturing and selling ultra-processed foods[42]. One advertising company responded by threatening to stop supplying funding to TfL used for installing bus shelters and providing free Wi-Fi and KFC also commented that funds to support TfL would stop.

Alternatives to an outright ban of HFSS product advertisements across TfL's estate proposed by the opposition included adding healthy messaging to adverts, further restricting HFSS advertising around schools, or limiting HFSS advertising on digital screens during times when more children travel. The opposition also argued to continue with their voluntary marketing codes of practice, which are directed only at child audiences.

Local authorities in the UK often hand over the management of bus shelter advertisements to thirdparties through licencing agreements. Advertisements across transport networks bring in revenue for local authorities and there is concern that regulating food advertisements would amount to revenue losses that could no longer be reinvested into public transport infrastructure and the maintenance of bus shelters, for example. Despite this concern, TfL have not lost revenue because changes to their advertisement policy and have had a growth in revenue despite of the changes[43]. There is a need for more evidence of the financial impact in the short and medium term of changing advertisement policies in other cities, but the London case suggests it is possible that the industry can adapt with alternative, socially responsible, advertisements to fund public transport infrastructure.

Research undertaken in Scotland[44], has found that it is through licensing agreements that LAs are likely to influence the content of ads managed by third-parties. Most LAs are not restricting HFSS food advertisements, however. LAs have also noted the challenge of influencing different private bus companies and changing advertising policies mid-way through 10–15-year contracts[45]. In terms of ongoing contracts with companies, TfL had set up contracts to be adjustable and so the policy changes were added to existing contracts[46]. In other contexts, city and local governments may not easily be able to legally adjust contracts with lengthy tenures arranged.

The Welsh Government recently announced it is opening a consultation on new legislation that could re-franchise the bus industry[47], which could provide an opportunity to establish a new advertising policy across the bus network. LAs are also limited without an integrated approach to regulating advertisements since responsibilities are spread across legal services, transportation and property management departments. The possibility is there, but the time and investment needed to carry out these changes discourages LAs from acting on the issue in the short-term without national legislative change.

One of the challenges experienced in relation to the TfL ban is that because it utilises the Food Standards Agency's Nutrient Profiling Model (NPM) as the basis on which to restrict ads with HFSS foods, is that some food items usually associated with 'junk' food, such as fried chicken and Mc Donald French fries, are not categorised as HFSS under the NPM calculation tool[48]. This means that fried chicken can be advertised in bucket sized portions too, which can lead to individuals purchasing over-sized portions.

## Future scope for restricting HFSS food and drink advertisement

There is lots of scope for implementing new policies and methods that restrict HFSS product ads and do more to protect public health. But there is strong market opposition, contractual barriers to overcome and dependency of local authorities to gain revenue from HFSS food and drink products and brands associated with them. A revenue strategy that is harming the public's health is unacceptable and alternative funding streams need to be found.

Children are minimally protected from HFSS food advertisements in public, but adults are even less-so but are proportionally, as a demographic group, overweight more so than the under 16 population and with some more exposed to unhealthy advertisements than others. There is a need for more data on adverts audiences and to put into practice national policies promoting further regulation of HFSS food and drink advertisements in public spaces and on transportation. This means challenging the current self-regulating methods that use an arbitrary figure to determine targeted advertising and do not use a robust method to assess HFSS product and brand advert audiences.

Public Health boards are strong advocators of increased restrictions on HFSS food ads, however, have little influence over those who own and manage publicly visible advertising space. Local level policies and licence agreements with advertising companies need addressing in compliance with national legislation and policy, rather than relying on self-regulatory frameworks that are motivated by the interests of the industry. Local authorities need to be held accountable to ensure that funding for public transport is responsibly sourced and is not funded through advertisements that harm the public's health.

#### Suggestions for future research

There is much need for research that intersects with public health and transportation interests to tackle unhealthy advertisements in public space. Research is needed to explore the extent of advertisements across Wales and elsewhere to understand the needs and challenges experienced by stakeholders involved and likely to be impacted by changes to advertisement restrictions at a local level.

There is a need for research that examines the possible disproportionate exposure to unhealthy advertisements for certain groups of the population because of the additional time they spend in the spaces where ads are placed. There is a need to further explore the impact unhealthy advertisements, and uneven exposure to them, may be having on health inequalities.

Without a significant national legislative change that would place an outright ban on unhealthy food and drinks in public spaces, there is an acute need for more robust methods that can be used to predict, or analyse, the dynamic audience of advertisements in public space at a local level. This would involve identifying appropriate sources of data that support our understanding of the flow of different audiences through public spaces and transportation infrastructures.

There is then scope for more dynamic advertising, which will enable more control over the content of advertisements in appropriates places at various times of the day, week and year, to safe-guard children and young people from unhealthy advertisements. This will ensure the current advertising codes are adhered to by the industry. In the same way, the uneven exposure to advertisements for certain groups, if necessary, could be reduced to tackle health inequalities.

Finally, there is a need for more studies that explore the potential harmful impact of HFSS food and drink advertisements in public space on adult audiences whereas the majority of research covers the impact of broadcast advertisements and more recently online advertisements to child audiences.

Please note: the content of the advert in the above image has not been assessed using the Department of Health's Nutrient Profiling Model and may not be classified as a HFSS food product.

#### **Resources**

Food Action Cities. London, United Kingdom: a ban on unhealthy food advertising across the transport system. Available at:

https://foodactioncities.org/app/uploads/2021/04/LCS2 \_London\_Ban\_On\_Unhealthy\_Food\_Advertising.pdf

Sustain. Taking down junk food ads. Available at: https://www.sustainweb.org/publications/taking\_down\_j unk\_food\_ads/

Advertising Food Standards Agency. Make a complaint. To make a complaint to ASA about an advertisement follow this link: https://www.asa.org.uk/make-acomplaint.html

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THINK has been created to bring together people working in transport and health from policy, practice and academia, developing skills, experience and knowledge, generating new practice-orientated research and getting research into practice.

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