A "game changer" for dietary health – addressing the implications of sport sponsorship by food businesses through an innovative interdisciplinary collaboration

Nikhil Gokani,[1] Amandine Garde,[2] Matthew Philpott,[3] Robin Ireland,[4] Rebecca Owens,[2] Emma Boyland[5]

Abstract

Overweight and obesity is a global concern as a significant risk factor for non-communicable diseases. Increased energy intake due to greater consumption of energy-dense food or non-alcoholic beverages high in fat, saturated fat, sugar or salt ('HFSS food') is the main explanation for population weight gain. The principal drivers underlying this consumption are the commercial determinants of health in the food chain, particularly the marketing of HFSS food. In the UK, some rules do regulate certain forms of HFSS food marketing (such as television and online advertising to children) and the Government is considering strengthening these. However, although sports sponsorship by HFSS food businesses is increasingly recognised as linked to HFSS food consumption, it has received little attention. This is all the more concerning in light of the proliferation of HFSS food businesses and products partnering with sports organisations in recent years. Against this background, we hosted a workshop to focus on the relationship between health, nutrition and the sponsorship of sport and related marketing by HFSS food businesses, and to consider the implications for obesity prevention strategies in the UK and beyond. This innovative workshop capitalised on, and contributed to, ongoing efforts to conceptually unite existing research by bringing together an interdisciplinary team of experts providing unique and complementary perspectives on how to address sports sponsorship as one of the channels through which HFSS food businesses contribute to poor nutrition and diet-related diseases. This report summarises the structure, participants and

[1] School of Law, University of Essex, UK.
[2] Law & Non-Communicable Diseases Unit, School of Law and Social Justice, University of Liverpool, UK.
[3] Healthy Stadia, UK.
[4] School of Social and Political Sciences, University of Glasgow, UK.
[5] Institute of Population Health, University of Liverpool.

discussions from the workshop; the existing evidence base; and the future research and policy opportunities we plan to pursue.

Key words

Obesity; nutrition; eating behaviour; sports; marketing; sponsorship

Correspondence

Dr Emma Boyland, Senior Lecturer in Psychology. Institute of Population Health, University of Liverpool, Institute of Population Health, University of Liverpool, Eleanor Rathbone Building, Bedford Street South, Liverpool, L69 7ZA. e.boyland@liverpool.ac.uk.

Introduction

It is estimated that there are 1.9 billion adults and 379 million children living with overweight or obesity globally (World Health Organization, 2021). This includes about 63% of the UK adult population (Cancer Research UK, 2021) and a third of children in England aged 2 to 15 (NHS Digital, 2017). Obesity imposes a substantial burden on health services, societies and sustainable development (Buse & Hawkes, 2015). It is a significant risk factor for non-communicable diseases such as cardiovascular diseases, musculoskeletal disorders and some cancers. Obesity in childhood is associated with a higher chance of obesity, premature death and disability in adulthood. Children with obesity also experience increased breathing difficulties, risk of fractures, hypertension, dental caries and insulin resistance with reduced levels of mental wellbeing (World Health Organization, 2021). Moreover, there are large socioeconomic, gender and ethnic inequalities in the prevalence of obesity (Loring & Robertson, 2014).

We live in an obesogenic environment which encourages weight gain (Swinburn et al, 2011). A population-wide energy imbalance has resulted from systemic changes in the type,

availability, affordability, and marketing of food in recent decades together with a decline in physical activity. Increased energy intake due to greater consumption of energy-dense food or non-alcoholic beverages high in fat, saturated fat, sugar or salt ('HFSS food') (Department of Health, 2011) is the main explanation for population weight gain (Bleich et al, 2018; Romieu et al, 2017). The principal drivers underlying this consumption are the commercial determinants of health – defined as the strategies and approaches used by the private sector to promote products and choices that are detrimental to health (Kickbusch et al, 2016) – in the food chain (Swinburn et al, 2019), particularly the marketing of HFSS food (Boyland et al, 2016). With children in particular, a substantial body of evidence shows that HFSS food advertising via broadcast and digital media negatively affects children's food attitudes, preferences and consumption (Smith et al, 2019).

Given the core involvement of business actors (Swinburn et al, 2019), regulating their activities is an important part of a multi-faceted approach to reducing obesity. Nevertheless, regulation has been fiercely contested by these powerful economic operators (Garde et al, 2020; Moodie et al, 2013). In the UK, some rules do regulate certain forms of HFSS food marketing (such as television and online advertising to children) and the Government is considering strengthening these (UK Government, 2021). However, although sports sponsorship by HFSS food businesses (defined as a business preparing, cooking, storing, handling, distributing, supplying or selling food and which is synonymous or associated with HFSS food) is increasingly recognised as linked to HFSS food consumption (Dixon H et al, 2019), it has received little attention. This is all the more concerning in light of the proliferation of HFSS food businesses and products partnering with professional and amateur sports organisations in recent years. Prominent examples in the UK include McDonald's sponsoring all national Football Associations, Coca-Cola sponsoring the Premier League, and KP Snacks sponsoring England and Wales Cricket Board's new 'The Hundred' competition. As these examples illustrate, sponsorship relationships between sporting organisations and food brands largely promote the consumption of HFSS products and associate these with elite sport. This close

interrelationship between HFSS food sponsorship and sports undermines official nutrition advice and raises important questions regarding the impact on preferences and purchase requests of HFSS food, dietary behaviour and public health.

Against this background, we hosted a workshop to focus on the relationship between health, nutrition and the sponsorship of sport and related marketing by HFSS food businesses, and to consider the implications for obesity prevention strategies in the UK and beyond. The workshop was organised by principal investigator Dr Emma Boyland (University of Liverpool) and co-principal investigator Dr Nikhil Gokani (University of Essex) with Professor Amandine Garde (University of Liverpool) and Dr Matthew Philpott (Healthy Stadia). The workshop was funded by the UK Nutrition Research Partnership (NRP) under their Nutrition Hot Topics Workshop call. This report summarises the structure, participants and discussions from the workshop; the existing evidence base on sports sponsorship by HFSS food businesses; and the future research and policy opportunities we plan to pursue.

Workshop to increase understanding

Understanding the determinants of health requires the collaborative work of multiple disciplines. Driving change at local, national and international levels requires engagement with research users, including policymakers across relevant sectors of government, international organisations and NGOs at all stages of the policy cycle. Domains of study pertinent to these issues overlap significantly, yet research and methodologies have typically been divided by discipline and health topic. With this innovative workshop, we sought to capitalise on, and contribute to, ongoing efforts to conceptually unite existing research by bringing together an interdisciplinary team of experts providing unique and complementary perspectives on how to address sports sponsorship as one of the channels through which HFSS food businesses contribute to poor nutrition and diet-related diseases.

The specific objectives for the workshop were to:

- bring together diverse expertise, and stimulate creativity and collaboration;
- identify research gaps through an interdisciplinary lens;
- generate a novel research agenda;
- establish a research network on this topic, learning from parallel debates on alcohol, gambling and tobacco in the UK and beyond;
- raise the awareness and profile of the issue; and
- use the full policy cycle approach to reflect on how best to translate research findings into policy.

This workshop brought together a new and diverse group of experts and participants who are engaged with the issue of sports sponsorship and dietary health and are keen to collaborate. Participants attended from a very diverse set of disciplines, including:

- psychology;
- law and human rights;
- finance and accountancy;
- nutrition and epidemiology;
- sports marketing and sports management;
- media studies; and
- health policy.

Participants were invited from a variety of sectors, some of which may not typically be represented at food and nutrition meetings, including:

- academia;
- government;
- health and obesity NGOs;
- sport associations;

- sports fans organisations;
- healthcare practitioners; and
- children's organisations.

Moreover, as the workshop was looking at the implications for childhood obesity, we consulted young people through the University of Liverpool's Young Person's Advisory Group, and a member of the BiteBack youth board participated in the workshop.

The problem – impact

The first part of the workshop focused on '*The problem – impact*' of sports sponsorship by HFSS food businesses. In the first presentation, Dr Matthew Philpott gave an '*Overview of HFSS marketing through sport in the UK*'. Sponsorship is financial or in-kind assistance to an activity by a commercial organisation to achieve commercial objectives (Meenaghan, 1983). Sponsorship by food businesses develops an association (Polonsky & Speed, 2001) between the sponsor and the sports activity, team or player. This leads to increased exposure, recognition, value and other opportunities to help the sponsor achieve their marketing objectives (Mullin et al, 2007). More specifically, this association improves access to consumers, can generate positive publicity, encourages community involvement, improves public relations, identifies a brand in a particular market, adds a health halo to HFSS food and ultimately can increase sales (Dixon et al, 2019).

Advertising of sponsorship deals during events and during television breaks generates significant publicity for brands and products (Ireland et al, 2019). Sponsorship deals receive publicity in a variety of other ways, including through promoting partnerships on the sponsor's website, in stadia marketing, in stadia activations, player endorsements, product brandings, community programmes, and out of stadia activations such as trophy tours. Aside from more

traditional media – such as television, radio and print – and social and other online media are increasingly being used to promote sponsorship deals. Sponsors do not only partner with specific teams, competitions and activities but also use celebrity endorsements.

Research shows that when food businesses sponsor sports, the sponsoring product is usually HFSS or the sponsoring brand is associated with HFSS products. For instance, a study in Canada found that across recreational sports facilities almost all had food advertising and about half of this was for HFSS food, with around 1 in 11 advertisements being targeted at children (Rachel et al, 2018). Similarly, a survey of the websites of sport governing bodies in Australia found that of the sponsors rated as unhealthy (defined as food and/or beverage company or product; alcohol company, product or vendor; or a gambling company), almost half were food businesses (Macniven et al, 2015). A recent analysis of the 2018 FIFA World Cup found that just under a quarter (22.7%) of the broadcast footage contained at least one reference to HFSS brand marketing (defined as a brand associated with alcohol, gambling or food and beverages) (Ireland et al, 2021).

There is a long history of sponsorship of sports by food businesses (Polley, 1998). Even as far back as the Olympic Games in Amsterdam in 1928, organisers recognised the commercial potential of the event with Coca-Cola sponsoring the Games, which has continued ever since (Garde & Rigby, 2012). HFSS food businesses spend vast sums of money on sports sponsorship (Bragg et al, 2018). Sponsorship arrangements exist between, to name a few, Red Bull and England Netball and Rugby Football Union, Irn-Bru and Scottish Rugby Football Union, and Müller and British Athletics. Sponsorship is not limited to professional and elite sport. HFSS food businesses also sponsor grassroots sports. For instance, Ferrero sponsors ‘health programmes’ for children’s football in both England and Scotland, with Greggs Foundation doing the same through rugby union in England; and McDonald’s sponsors grassroots football across the UK through each of the four national Football Associations.

Sports sponsorship is not only a business opportunity for food businesses but is also a source of funding for sports.

In the second presentation, Dr Emma Boyland provided an overview of the '*Behavioural and health impacts of sports sponsorship by food and beverage companies'*. As a form of marketing, sports sponsorship by HFSS food businesses can lead to harmful consequences for health. Exposure to HFSS food marketing leads to increased awareness and desires for the brand or product. This can alter purchase intentions and purchasing decisions, particularly when families face 'pester power'. The purchase and subsequent consumption, without compensation in activity levels or other parts of the diet, leads to a sustained energy imbalance and eventually weight gain (Kelly et al, 2015). This has been demonstrated clearly with many forms of marketing, and the evidence with sports sponsorship is growing. For instance, in a survey in Australia, three-quarters of children made at least one correct recall between a sporting team and the sponsoring brand, and team-sponsor associations occurred at the product category as well as brand level (Bestman et al, 2015). In experimental data, when young adults were exposed to HFSS food sponsorship, this increased brand awareness and enhanced brand attitudes. Conversely, sponsorship by healthier food brands promoted a reduction in preference for HFSS food (Dixon et al, 2018). In cross-sectional surveys, brand traits of 'smart' and 'sporty' were viewed as indicators of product healthiness (Kelly et al, 2016); and attitudes to sponsors were more positive if perceived to have a sincere motive for engaging in the sponsorship (Ko et al, 2017). In another study, participants were able to correctly identify around one-third of event sponsors, and perceptions of goodwill were predictors of behavioural intentions such as purchasing (Eddy & Cork, 2019). Some types of sponsorship deals, such as celebrity endorsements, attract attention and associate brands with desired traits including fame, success, sporting prowess and good health (Boyland et al, 2013). These endorsements can even alter parental choices and product perceptions (Dixon et al, 2011). Moreover, sponsorship can whitewash the role of HFSS food in obesity as part of

a strategy by commercial operators to create a narrative that promotes physical activity as the main driver for the prevention of weight gain (Freudenberg, 2016).

The problem – complexity

The second part of the workshop focused on '*The problem – complexity*' of sports sponsorship by HFSS food businesses. In the third presentation of the workshop, Kieran Maguire (University of Liverpool) spoke on '*Sports financing: role of sponsorship*'. A significant proportion of sports income is derived through commercial arrangements, including sponsorships, rather than broadcast income and ticket sales. Funding can be particularly important in the case of under-funded grassroots sports. While it is sometimes claimed that restricting HFSS food sponsorship could lead to financial unviability of some sport events, this is the same argument that was made – and proved wrong – with the end of tobacco sponsorship in the UK.

In the fourth presentation, Professor Amandine Garde and Dr Nikhil Gokani discussed '*Regulating the food sponsorship of sports events'*. In light of the effects of the marketing of HFSS food, civil society and international organisations, such as WHO, have called for effective regulation. In particular, the WHO Set of recommendations on the marketing of foods and non-alcoholic beverages to children (World Health Organization, 2010) specifically calls on States to restrict HFSS food marketing to children as comprehensively as possible through tackling both the exposure to and power of marketing (recommendation 3). To ensure the broadest possible coverage, the Recommendations adopt an extensive definition of 'marketing' which includes sponsorship (Garde and Xuereb, 2017). To try to prevent conflicting interests influencing the development of policies on food marketing, the Recommendations also state that it is the responsibility of governments to act in the public interest, whilst avoiding all conflicts of interest and undue influence from commercial operators (recommendation 6).

Despite international calls on States to effectively regulate food marketing, progress has been slow. In the UK, sports sponsorship by HFSS food businesses is governed by general rules on advertising. The BCAP Code on broadcast advertising regulates advertisements and programme sponsorship credits on licenced radio and television (Committee of Advertising Practice, 2010). For television, the BCAP Code provides for a content ban on HFSS food (as defined by the Department of Health nutrient profiling model) promotions targeted directly at children under 12 years of age (rule 13.9). This also includes a ban on the use of licensed characters and celebrities, but not brand equity characters, in advertisements targeted at under-12s (rule 13.10). It further specifies scheduling bans for HFSS food advertisements in or adjacent to programmes commissioned for, principally directed at or likely to appeal particularly to under-16s (rule 32.5.1). The CAP Code for non-broadcast advertising specifically excludes sponsorship from its remit (Committee of Advertising Practice, 2014). Hence, it does not regulate pitch hoardings and kits, but it does regulate advertising that refers to sponsorship. The CAP Code prohibits HFSS food advertisements directed to children through the media or context where children under 16 years of age are the main target audience or make up more than 25% of the audience (rule 15.18). Where the content directly targets under-12s, HFSS food advertisements must not use licensed characters, celebrities or promotions but may use brand equity characters (rule 15.15). The scope of these Codes means many advertisements for HFSS food seen by children are not prohibited. Moreover, advertising of brands synonymous with HFSS food are not always caught by these restrictions either, particularly when a brand is promoting a healthy product (Committee of Advertising Practice, 2017).

The proliferation of sports sponsorship by HFSS food businesses has been criticised by the public health community (Ireland & Boyland, 2019) but the issue remains poorly recognised in government action plans and strategies. In the UK, the issue was notably absent from the 2016 childhood obesity action plan (HM Government, 2016) and its follow-up in 2018 (Department of Health and Social Care, 2018). This reflects the global position with little

progress being made on regulating HFSS food marketing, particularly to children (World Health Organization, 2018). The need to address this issue has been recognised as a child-rights issue (UNICEF, 2018; Garde et al, 2017). Dainius Pūras, UN Special Rapporteur on the right to physical and mental health 2014-20 has urged governments to 'ban the advertising, promotion and sponsorship of all children's sporting events, and other sporting events which could be attended by children, by manufacturers of…unhealthy food' (Pūras, 2016).

Progress remains slow but a few examples in the UK have shown that there is increasing recognition amongst policymakers to address HFSS food marketing. In 2019, Transport for London prohibited advertisements on its network where this features only HFSS food or where healthy food is only incidental (Transport for London, 2019). In 2021, Bristol City Council went further by prohibiting HFSS food advertising on its property and explicitly included sponsorship in this policy (Bristol City Council, 2021). Nevertheless, both organisations permit brand advertising where the advertisement promotes healthier food products.

Tackling the problem

The third part of the workshop focused on '*Tackling the problem*'. Participants were pre-allocated to one of two breakout rooms. The breakout room on '*Research gaps and priorities: agenda setting*' was facilitated by Dr Emma Boyland and Dr Nikhil Gokani, with Dr Robin Ireland (University of Glasgow) as rapporteur. The breakout room on '*Profile and policy: a plan for action*' was facilitated by Professor Amandine Garde and Dr Mathew Philpott, with Rebecca Owens (University of Liverpool) as rapporteur. The ideas from these discussions are summarised below.

The following priority areas for research were identified.

- Further studies are required to gather data on the effects of sports sponsorship. This should embrace different methodologies exploring how marketing influences attitudes,

purchasing preferences, consumption and weight gain while drawing a distinction between brand awareness and product awareness. This should address different media, particularly social media. This research needs to explore the effects on members of different ethnic, age, gender and socioeconomic groups, and include research in low- and middle-income countries.

- Greater research is needed on industry practices. Some data can be gathered from publicly available sources. For instance, HFSS food businesses are presenting assistance in COVID-19 recovery and food poverty as a distraction from obesity concerns. Similarly, claims made to counter regulation can also be analysed to allow the public health community to develop responses to correct misconceptions. However, other data is less accessible. This includes behind-the-doors tactics used to influence government, as well as data on the types, spending and reach of marketing campaigns.
- In light of the significance of sponsorship as a major source of sports funding, further research is required in this area. Alternative funding models need to be explored to replace existing ones, such as sponsorship which promotes healthy food. The wider implications of regulating sponsorship should be considered as funding budgets will be reassigned – for instance, a ban on sports celebrities being sponsored by HFSS food businesses may mean non-sports celebrities receive the sponsorship. The implications of the economic effects of COVID-19 would need to be investigated too. Research could be conducted on different sports as some have less sponsorship by HFSS food businesses than others.
- Ethical aspects of sports sponsorship should be further explored. This could apply to funding models but also issues on marketing, such as algorithmic targeting of consumers. Consideration can be given to the diffusion of ethical responsibility onto the consumer to make healthy choices and the issue of governmental duties.
- The perspectives and views of fans should be included more in research. This also needs to explore whether fans recognise all forms of sponsorship, and whether fans realise sponsorship is a form of marketing with a negative impact on health.

Key framing opportunities were also identified.

- Re-framing the issue is necessary to help focus it as one of concern. The public narrative could help build consensus that sports sponsorship by HFSS food businesses is a widespread, harmful form of marketing which promotes obesity rather than an essential form of sports funding. However, this framing should not demonise fans, nor conflate criticism of a sponsor with criticism of the sports club or event. This requires the development of a nuanced understanding of the balance between the negative outcomes of HFSS food sponsorship for health and the positive outcomes for sports finances. Distinctions can be drawn between sponsorship which promotes healthy products and sponsorship which promotes poor nutrition.
- The targeting of children should be more strongly presented as a particularly significant concern and mobilised as a child-rights issue. This should reflect the reach and effect on all children and take into account the credulity of older children.

In moving forward, the following areas for priority action were recognised.

- A mapping exercise should be undertaken to help determine what the existing policy levers are and how they operate. This should acknowledge the regulatory (international, national, local) and governance (national sports governing bodies, etc) structures in place at different levels of sports (professional, grassroots, schools).
- Increased attention should be given to designing and implementing interventions, particularly ones which can be piloted at a local level. It is important to gather sufficient data to permit policy evaluation.
- Strategies should be explored to create governmental support in the next policy cycle and develop cross-departmental consensus.
- Ultimately, an end goal is to draw clear distinctions between rules for adult-only events and events where children are present.

Future research and policy opportunities

The primary outcomes of the workshop were to:

- create a scientifically valuable discussion in which new ideas and visions were exchanged and reflected upon collaboratively;
- develop an interdisciplinary research agenda based on collective research goals and a planned approach to address research gaps and translate evidence effectively into policy action;
- create a new, diverse interdisciplinary research network which is competitive for follow-on funding; and
- raise the profile of this issue.

Following the workshop, participants were sent copies of presentations and the workshop report. The organisers are developing an online bank of relevant resources which participants can access. This will also be shared with additional collaborators, networks and organisations. As a recurring theme in the workshop discussions was learning from the parallel research in tobacco and gambling sponsorship and the successes of the former, two reviews were undertaken on these issues. We are now also developing an application for a PhD research project on this topic. As part of our next steps, we will develop this nascent research network we have established by expanding the number, specialities and geographies of participants. Network members will be invited to regular short follow-up virtual meetings to maintain momentum, continue to refine research questions, and develop a collaborative funding bid for a sustained research project that builds on the workshop findings.

Acknowledgments

EB and NG gratefully acknowledge financial support from the Medical Research Council (award refence MC_PC_19013) for supporting this workshop. This paper was drafted from preparatory documents all authors contributed to. NG drafted the manuscript. EB, AG, MP, RI and RO worked on creating, editing and revising the manuscript.

Conflicts of interest

No conflicts of interest.

References

Bestman A, Thomas SL, Randle M and Thomas SDM (2015) Children's implicit recall of junk food, alcohol and gambling sponsorship in Australian sport. *BMC Public Health* 15:1022.

Bleich SN, Cutler D, Murray C and Adams A (2018) 'Why Is the Developed World Obese? *Annual Review of Public Health* 29: 273-295

Boyland E, Harrold JA, Dovey TM, Allison M, Dobson S, Jacobs M et al (2013) Food choice and overconsumption: Effect of a premium sports celebrity endorser. *Journal of Pediatrics*, 163(2): 339-343.

Boyland E, Nolan S, Kelly B, Tudur-Smith C, Jones A, Halford JC et al (2016) Advertising as a cue to consume: a systematic review and meta-analysis of the effects of acute exposure to unhealthy food or non-alcoholic beverage advertising on intake in children and adults. *American Journal of Clinical Nutrition*, 103, 519-533.

Bragg MA, Miller AN, Roberto CA, Sam R, Sarda V, Harris JL et al (2018) Sports Sponsorships of Food and Nonalcoholic Beverages. *Pediatrics*, 141(4).

Bristol City Council (2021) Advertising and Sponsorship Policy <https://democracy.bristol.gov.uk/documents/s58004/Appendix%20Ai%20-%20Advertising%20and%20Sponsorship%20Policy.pdf>.

Buse K and Hawkes S (2015) Health in the Sustainable Development Goals: Ready for a Paradigm Shift?. *Globalization and Health*, 11: 13.

Cancer Research UK (2021) Overweight and obesity statistics <https://www.cancerresearchuk.org/health-professional/cancer-statistics/risk/overweight-and-obesity#heading-Four>.

Committee of Advertising Practice (2010) The BCAP Code: The UK Code of Broadcast Advertising <https://www.asa.org.uk/codes-and-rulings/advertising-codes/broadcast-code.html>.

Committee of Advertising Practice (2014) The CAP Code: The UK Code of Non-broadcast Advertising and Direct & Promotional Marketing <https://www.asa.org.uk/codes-and-rulings/advertising-codes/non-broadcast-code.html>

Committee of Advertising Practice (2017) Identifying brand advertising that has the effect of promoting an HFSS product: Advertising Guidance <https://www.asa.org.uk/asset/6B42B9F3-96EC-4A66-A9B50F0E21D845BF/>.

Department of Health (2011) Nutrient Profiling Model Technical Guidance (Department of Health) <https://www.gov.uk/government/publications/the-nutrient-profiling-model>.

Department of Health and Social Care (2018) Childhood obesity: a plan for action, chapter 2 <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/718903/childhood-obesity-a-plan-for-action-chapter-2.pdf>.

Dixon H, Scully M, Wakefield M, Kelly B, Chapman K and Donovan R (2011) Parent's responses to nutrient claims and sports celebrity endorsements on energy-dense and nutrient-poor foods: an experimental study. *Public Health Nutrition, 14(6):1071-9*

Dixon H, Scully M, Wakefield M, Kelly B, Pettigrew S, Chapman K et al (2018) The impact of unhealthy food sponsorship vs. pro-health sponsorship models on young adults' food preferences: a randomised controlled trial. *BMC Public Health volume* 18: 1399.

Dixon H et al (2019) Sports sponsorship as a cause of obesity. *Current Obesity Reports*, 8:480–494.

Eddy T and Cork BC (2019) Sponsorship antecedents and outcomes in participant sport settings. *International Journal of Sports Marketing and Sponsorship* 20(1): 26-42.

Freudenberg N (2016) Lethal but Legal. Corporations, Consumption and Protecting Public Health (Oxford: Oxford University Press); Nestle M (2016) Corporate Funding of Food and Nutrition Research. Science or Marketing?. *JAMA Internal Medicine*, 176(1), 13-14.

Garde A and Rigby N (2012) Going for gold – Should responsible governments raise the bar on sponsorship of the Olympic Games and other sporting events by food and beverage companies?. *Communications Law*, 17(2).

Garde A and Xuereb G (2017) The WHO Recommendations on the Marketing of Food and Non-Alcoholic Beverages to Children *European Journal of Risk Regulation,* 8(2):211.

Garde A, Curtis J and De Schutter O (eds) (2020) Ending Childhood Obesity: A Challenge at the Crossroads of International Economic and Human Rights Law (Elgar).

Moodie R, Stuckler D, Monteiro C, Sheron N, Neal B and Thamarangsi T (2013) Profits and Pandemics: Prevention of Harmful Effects of Tobacco, Alcohol, and Ultra-Processed Food and Drink Industries. *Lancet* 381(9867):670.

HM Government (2016) Childhood obesity: a plan for action <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/546588/Childhood_obesity_2016__2__acc.pdf >.

Ireland R and Boyland E (2019) Sports sponsorship and young people: good or bad for health?. *BMJ Paediatrics Open* 3(1).

Ireland R, Bunn C, Reith G, Philpott M, Capewell S, Boyland E et al (2019) Commercial determinants of health: advertising of alcohol and unhealthy foods during sporting events. *Bulletin of the World Health Organization*, 97:290-295.

Ireland R, Muc M, Bunn C and Boyland E (2021) Marketing of unhealthy brands during the 2018 Fédération Internationale de Football Association (FIFA) World Cup UK broadcasts – a frequency analysis. *Journal of Strategic Marketing*.

Kelly B, King L, Chapman K, Boyland E, Bauman AE and Baur LA (2015) A hierarchy of unhealthy food promotion effects: identifying methodological approaches and knowledge gaps. *American Journal of Public Health* 105(4): e86-e95.

Kelly B, Freeman B, King L, Chapman K, Baur LA and Gill T (2016) The normative power of food promotions: Australian children's attachments to unhealthy food brands. *Public Health Nutrition* 19(16): 2940-2948.

Kickbusch I, Allen L and Franz C (2016) The Commercial Determinants of Health. *Lancet Global Health,* 4(12): e895.

Ko YJ, Chang Y, Park C and Herbst F (2017) Determinants of consumer attitude toward corporate sponsors: A comparison between a profit and nonprofit sport event sponsorship. *Journal of Consumer Behaviour* 16(2): 176-186.

Loring B and Robertson A (2014) Obesity and inequities: Guidance for addressing inequities in overweight and obesity (WHO Europe).

Macniven R, Kelly B and King L et al (2015) Unhealthy product sponsorship of Australian national and state sports organisations. *Health Promotion Journal of Australia* 26(1):52-56.

Meenaghan J (1983) Commercial sponsorship. *European Journal of Marketing*, 17(7):5-71.

Mullin B, Hardy S and Sutton WA, Sport Marketing (Human Kinetics, 3rd ed, 2007).

NHS Digital (2017) 'National Child Measurement Programme - England, 2016-17 <https://digital.nhs.uk/data-and-information/publications/statistical/national-child-measurement-programme/2016-17-school-year>.

Polley M (1998) Moving the Goalposts: A history of sport and society since 1945 (Routledge, London), 65.

Polonsky M and Speed R (2001) Linking sponsorship and cause related marketing. Complementaries and conflicts. *European Journal of Marketing,* 35(11/12):1361-85.

Pūras D (2016) Report of the Special Rapporteur on sport and healthy lifestyles as contributing factors to the right to health of 4 April 2016, A/HRC/32/33.

Rachel J, Naylor P, Olstad DL, Carson V, Storey K,. Mâsse LC et al (2018) Food marketing in recreational sport settings in Canada: a cross-sectional audit in different policy environments using the Food and beverage Marketing Assessment Tool for Settings (FoodMATS). *International Journal of Behavioral Nutrition and Physical Activity,* 15(39).

Romieu I, Dossus L, Barquera S, Blottière HM, Franks PW, Gunter M et al (2017) 'Energy balance and obesity: what are the main drivers?. *Cancer Causes Control*; 28(3): 247–258.

Smith R, Kelly B, Yeatman H and Boyland E et al (2019) Food marketing influences children's attitudes, preferences and consumption: a systematic critical review. *Nutrients,* 11(4):875.

Swinburn BA, Sacks G, Hall KD, McPherson K, Finegood DT, Moodie ML et al (2011) The global obesity pandemic: shaped by global drivers and local environments. *The Lancet,* 378(9793): 804-814.

Swinburn BA, Kraak VI, Allender S, Atkins VJ, Baker PI, Bogard JR et al (2019) The Global Syndemic of Obesity, Undernutrition, and Climate Change: The Lancet Commission Report. *The Lancet Commissions,* 393(10173): 791

Transport for London (2019) TfL advertising policy <http://content.tfl.gov.uk/tfl-advertising-policy-250219.pdf>.

UK Government (2021) *Consultation outcome. Introducing further advertising restrictions on TV and online for products high in fat, salt and sugar: government response* <https://www.gov.uk/government/consultations/further-advertising-restrictions-for-products-high-in-fat-salt-and-sugar/outcome/introducing-further-advertising-restrictions-on-tv-and-online-for-products-high-in-fat-salt-and-sugar-government-response>.

UNICEF (2018) A Child Rights-Based Approach to Food Marketing: A Guide for Policy Makers <https://sites.unicef.org/csr/files/A_Child_Rights-Based_Approach_to_Food_Marketing_Report.pdf>; Garde A et al (2017) For a Children's Rights Approach to Obesity Prevention: The Key Role of an Effective Implementation of the WHO Recommendations. *European Journal of Risk Regulation* 8(2): 327-341.

World Health Organization (2010) Set of recommendations on the marketing of foods and non-alcoholic beverages to children (WHO).

World Health Organization (2018) Evaluating implementation of the WHO Set of recommendations on the marketing of foods and non-alcoholic beverages to children: Progress, challenges and guidance for next steps in the WHO European Region <https://www.euro.who.int/__data/assets/pdf_file/0003/384015/food-marketing-kids-eng.pdf>.

World Health Organization (2021) 'Overweight and obesity: key facts' <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>.