Chapter 2. Marketing strategies increase exposure to NCD risk factors and negatively affect NCD care



Key highlights

- Marketing strategies can have a direct impact on people's behaviours and noncommunicable disease (NCD) risks and care.
- Data-driven marketing techniques capitalize on individual vulnerabilities by targeting and personalizing digital marketing messages in ways that maximize profit.
- Marketing in most areas is largely unregulated.
- Myths and legal threats are used by industry to delay or stop the implementation of marketing restrictions.

Marketing affects both NCD prevention and care. When focusing on care, it is worth noting that the pharmaceutical and medical device industry have developed very specific marketing strategies to promote their products to both the medical community (see Box 2) and general public (see Box 3) due to their need to circumvent some unique regulations. This publication will not go into the details of these strategies, but simply provides short briefs about them (Box 3 and an example in Case study 3). This chapter focuses mainly on prevention and how promoting products to vulnerable populations increases exposure to NCD risk factors.

The marketing of products known to increase the risk of NCDs, such as alcohol, tobacco, e-cigarettes, and unhealthy foods and drinks, is a major commercial driver of poor health across the world. Through strategic and integrated marketing campaigns, industries create allure for these products, often glamourizing them



and associating them with desirable experiences and lifestyles. These marketing practices are deeply embedding these products into our everyday lives, exaggerating their benefits, and normalizing their consumption.

Marketing practices often target populations that already experience health inequities and higher rates of NCDs. For example, the tobacco industry has used First Nations imagery in tobacco advertisements, selectively targeted First Nations peoples in their marketing campaigns, and provided commercial sponsorship to First Nations foundations (1). Similarly, unhealthy food marketing has been found in greater quantities in more socioeconomically disadvantaged neighbourhoods or where high numbers of ethnic minority residents live (2). The tobacco, e-cigarette, alcohol, and food industries all target children with their

marketing campaigns (3-5). In 1978, the tobacco industry stated that "the base of our business is the high school student" (6) – today, the colourful packaging and flavours of e-cigarettes, marketed through social media and influencers to young people online (7), suggests that little has changed. Gender-based marketing strategies are commonly used by alcohol companies to link alcohol to everyday gendered activities and identities to encourage alcohol consumption, perpetuating harmful gender norms and related stereotypes (8).

Digital marketing

With the global proliferation of the internet and social media, virtually no country is untouched by the digital marketing of health-harming products and brands. Multinational corporations are collaborating with technology giants to integrate health-harming products and brands seamlessly into our digital lives and culture. Data-driven techniques capitalize on individual vulnerabilities by targeting and personalizing marketing messages in ways that maximize profit. For example, adolescents are targeted by food companies because of their avid use of social media and increased spending power (9, 10), and alcohol companies exploited the COVID-19 pandemic by promoting the online purchase and delivery of their products alongside "fun isolation activities" (11, 12). Children are targeted through the use of so-called kidfluencers, where marketers engage children with a significant social media following and influence to endorse products and brands among younger audiences (13). The goal is to leverage the kidfluencer's popularity to connect with their audience and drive sales. This raises ethical concerns regarding child exploitation, privacy, and the influence of commercial interests on children's behaviour and preferences.

Industry use of digital marketing strategies has grown significantly in recent times. This is largely due to the ability to harness advanced technologies, such as algorithmic targeting and personalized messaging, facilitated by the analysis of extensive behavioural and demographic data. Digital marketing techniques are immersive, captivate audiences, and ensure maximum engagement. The dissemination of marketing content through trusted and authentic channels, including peer recommendations and influencer endorsements, further amplifies its impact. Marketing messages are seamlessly integrated into various digital platforms, such



as social media, influencer content, advergames, and even news media. Furthermore, with the advent of emerging virtual spaces, such as the metaverse, marketers have found new avenues to connect with audiences in innovative and immersive ways. This covert approach to marketing allows brands to engage with consumers more organically, fostering deeper connections and relationships with little oversight and consumer protection. The complexity of the digital marketing ecosystem has raised concerns related to the difficulties of regulating harmful digital marketing. However, countries are starting to take action, showing that it is feasible.

Regulatory action

Regulating the marketing of harmful products and brands is a crucial response to safeguarding public health from commercial interests. Specifically, children and vulnerable populations need to be protected from exposure to the marketing of harmful products and brands. Many international organizations, including WHO, advocate for regulatory measures to protect populations, particularly children, young people and vulnerable groups, from the adverse health consequences of marketing practices by large corporations that manufacture or promote products that are harmful to health. With the notable exception of tobacco marketing laws that have been adopted in many countries, global efforts to regulate harmful marketing have, at best, been underwhelming. While legal measures regulating alcohol and unhealthy food marketing are in existence in several countries across the WHO European Region and across the world, these are often narrow in scope, focused on specific media or settings, certain population groups or on specific marketing techniques, and therefore confer insufficient protection.

A major barrier to the adoption and implementation of legal measures to protect the public from harmful marketing is the powerful opposition by commercial industries. This chapter describes two case studies outlining how governments have adopted laws to protect the public from the marketing of health-harming products, how industry has sought to undermine these efforts, and how public health groups have overcome industry's formidable opposition.

Myth busting industry arguments against marketing laws

Governments that attempt to introduce legal measures that restrict harmful marketing will face strong opposition from industry, including those marketing their products, such as food, alcohol, and tobacco, and the advertising and marketing industries as well as online platforms. The arguments used to oppose legal measures for marketing are similar across industry types, with the aim to avoid government regulation that will negatively impact sales of their products, and therefore their financial position. Common industry arguments and counter-points to these are listed below.

Myth 1. Self-regulation is sufficient. Voluntary codes of practice have often been found to be ineffective (14, 15). For example, the voluntary commitments of the food industry through the EU Pledge programme¹ have been shown to be ineffective in preventing the marketing of unhealthy food products to children (16). There is a clear conflict of interest (COI) when industries write the rules and enforce regulations for marketing practices that drive their profits and stakeholder returns.

Myth 2. People should take responsibility for their own and their children's behaviours. Individuals must make choices about what they and their children purchase and consume, but these decisions are greatly affected by the affordability, accessibility and acceptability of the healthier choices. The current marketing landscape undermines healthy population behaviours by misleading consumers, shaping choice environments, manipulating preferences, and constraining the ability to make genuinely free and informed choices about health and well-being.

Myth 3. Marketing restrictions will cause a loss of jobs and will negatively influence the economy. There is no evidence, internationally, showing that marketing restrictions have had a negative impact on jobs and/or the economy. In fact, the opposite is true. For example, examination of the Chilean Food Labelling and Advertising Law, which included restrictions on all unhealthy food marketing considered to be directed to children, revealed no discernible effect on labour market outcomes within the food and beverage industry – including aggregate employment and average real wages – during the 18-month period following the policy's enactment (*17*).

Myth 4. Marketing does not target children or other vulnerable groups. Even if marketing does not specifically target a particular group, marketing is insidious, and individuals share many of the same spaces, settings, and devices and consume the same media. Marketing shapes social norms as well as more immediate behaviours, regardless of whether it is targeted or not.

Legal threats

Governments are also often concerned that their legal mandate to regulate marketing will be challenged either domestically or under international investment law or trade law, such as through regional trade bodies, or through World Trade Organization (WTO) procedures. Four common legal arguments industry uses to threaten legal action to stall marketing laws include:

- 1. the law is discriminatory as it applies to certain products and not others;
- 2. the government does not have the mandate or jurisdiction to introduce the law;
- 3. the marketing restriction impinges on commercial rights to trade or use intellectual property; and
- 4. the legislative response is more trade-restrictive than necessary.

The forceful propagation of these legal threats by industry to avoid marketing regulation has stifled policy progress and/or eroded existing laws. However, governments do have the jurisdiction to introduce public health laws if the legal principles related to trade and investment are observed and accounted for (18-21). Working with in-country lawyers throughout the policy development process has been crucial.

Case study 1. Harnessing civil society to overcome industry influence in national food marketing policy

In 2021, the Government of the United Kingdom announced global landmark food marketing restrictions, including a ban on all marketing of foods and beverages high in fats, salt and/or sugar (HFSS) between the hours of 05:30 and 21:00 on television and a ban on paid-for HFSS food marketing online, as part of a multi-faceted obesity strategy (22).

This announcement was the culmination of approximately 20 years of effort from a range of stakeholders, including academics and medical associations. The role of NGOs and civil society to inform policy-makers, engage the media, and garner public support for tougher restrictions was pivotal to pushing back on industry influence and ultimately having the policy enacted into law (read more in Chapter 13). Key NGO and civil society groups include:

- 1. the Obesity Health Alliance (OHA) (23), established in 2015 as a coalition of more than 50 organizations advocating together for policies to address obesity and improve population health;
- 2. Bite Back 2030 (24), an innovative youth-led movement to influence government to put young people's health first; and
- 3. the Children's Food Campaign, run by Sustain (25), a consortium of NGOs and advocates. More details can be found in a report by the Center for Digital Democracy (26).

Throughout policy development, the industry maintained strong opposition, including undermining the science (27) and the rationale for the policy, calling it a tokenistic ban (28); lobbying policy-makers to repeal or delay implementation of the policy; and offering alternative, more limited proposals, claiming they would be more effective (28).

NGOs and civil society organisations (CSO) swiftly mobilized a collective, representing the public health community with coordinated effort and messaging (29) to advocate for enactment and implementation of the policy. Research collaboration with academics on topics, such as the ineffectiveness of existing (industry-led) television advertising restrictions, provided important data (30) to support development. Effective relationships with key government agencies, especially the Department of Health and Social Care, were leveraged and industry rhetoric and research were rapidly challenged (31). Throughout the process, these organizations created and maintained pressure on the Government to act on evidence and deliver on its commitments, including via policy position papers (32). Bite Back 2030 (24), in partnership with academic institutions, created youth-led advocacy campaigns; for example, their Fuel us, Don't Fool Us campaign revealed the huge reliance of food manufacturers on unhealthy food and beverages to make profit in the United Kingdom.

As a result of this coordinated action, the legislation to restrict HFSS food advertising was enacted as part of the United Kingdom's Health and Care Act in 2022, although its implementation has been delayed to October 2025.

Case study 2. Overcoming industry opposition – the French *Loi Évin* to restrict alcohol marketing

The French alcohol law named *Loi Évin* was enacted in 1991 to regulate the advertising and promotion of alcoholic beverages, particularly those targeting youth and vulnerable populations. Over time, the law has faced criticism and debate over its effectiveness and implementation and its balance between public health objectives and commercial interest. The law has faced intense opposition from the alcohol industry, which has used long-term lobbying strategies and carefully constructed arguments to weaken its design, implementation and effectiveness (33). In fighting back, proponents of the law have also had some wins.

The law mandates that all promotional messages for alcohol must be accompanied by a health warning and provides a list of where alcohol can be promoted if the marketing message is for the purpose of providing objective information. So-called permitted media include printed press for adults, radio (at certain times), billboards, posters, displays at points of sale, and digital media, except if young people are specifically targeted or the advert is surreptitious or hidden. The implication is that alcohol cannot be promoted through all other media and settings, such as on television or through the sponsorship of sports or other events.

Legislative reforms over time have expanded the list of media where alcohol marketing may be allowed, thereby eroding the scope and potential effectiveness of the law (34). For example, in 1994, alcohol marketing in public spaces was added to the permitted list and, in 2009, digital media was added if it does not target children. This has created a major loophole, and children remain exposed to digital marketing online (35). This is because digital platforms are often shared spaces between children and adults, age verifications are easily circumvented, and there is a lack of transparency and independent data to monitor what advertising specifically targets children online.

These reforms have been in response to persistent lobbying by the alcohol industry. The Association Nationale de Prévention en Alcoologie et Adictiologie (ANPAA) documents 15 tactics that the alcohol industry has undertaken in recent times to undermine the law, including undermining the science, spreading misinformation, the development of "prevention plans", intimidation of advocacy groups, and lobbying of policy-makers (36). The exploitation of legal loopholes has also been widely documented, including the use of alibi marketing by alcohol companies in sports. This involves using core elements of a brand's identity, such as colours, slogans, shapes, or symbols, to create positive associations with its brands or products, instead of directly featuring the brand name, logo, or specific products (37).

Public health and CSOs have sought to protect the law from erosion through strong advocacy and public litigation against infringements. For example, in 2017, the ANPAA challenged an advertisement on a website owned by a beer company, which referenced the Game of Thrones series, thereby contravening the Loi Évin (by way of associating alcohol with fantasy and adventure). The court upheld the challenge, affirming that the advertisement had nothing to do with providing factual information related to the production methods or the regions of origin of the beer, but instead promoted the consumption of an alcoholic beverage among youth (38).

Box 2. Pharmaceutical promotion to health professionals and health consumers negatively affects NCD care

A 2018 WHO report focusing on cancer medicine reported that, across all pharmaceutical company categories, expenditures related to selling and marketing represented between 25% and 31% of industry-reported costs, compared to 5% to 19% for research and development (39).

Most of this marketing effort is directed at doctors and other health professionals. They are exposed to widespread pharmaceutical promotional practices during their entire career, starting at medical school and through to continuing medical education (CME)-sponsored events, and through educational material from sales representatives and gifts, and the distribution of free samples, where it is not banned, to seed the market. In France, almost all medical students surveyed in 2019 had been confronted with pharmaceutical product promotion (40). COI policies remain poorly implemented at medical schools (41). A 2018 survey identified policies related to COI for only two of 38 German medical schools (42).

A well-known example of sponsored CME events is the OxyContin marketing campaign in the United States that led to the medically-induced opioid crisis, which started at the turn of the century. It initiated a trend credited with causing more than 600 000 deaths between 1999 and 2021 in the United States (43) and its effects are still felt today. As part of its marketing strategy, OxyContin manufacturer Purdue conducted more than 40 national pain-management and speaker-training conferences at resorts in the United States between 1996 and 2001; more than 5000 physicians, pharmacists, and nurses attended these all-expenses-paid symposia, where they were recruited and trained for Purdue's national speaker bureau (44).

While a systematic review found that exposure to information provided directly by pharmaceutical companies was associated with higher prescribing frequency, higher costs, or lower prescribing quality (45), a recurrent research finding is the cognitive dissonance observed among health professionals – believing that they are themselves immune to the effects of promotion, while being convinced their peers are influenced. This has been observed all over the world, among all health professionals, and this perception is consolidated during their training (46).

Box 3. Direct-to-consumer advertising of medical products

Direct-to-consumer advertising (DTCA) of prescription drugs is illegal in Europe; however, other forms of direct and indirect promotion to the public occur. These include industry-sponsored disease awareness campaigns, promotional material on the internet, and patient compliance and disease management programmes.

Disease awareness campaigns are a marketing strategy that has since long been denounced as such (47). An example is the recent worldwide shingles awareness campaign sponsored by GlaxoSmith-Kline (GSK) to promote its vaccine (48).

Unbranded advertising campaigns prompt consumers to "ask your doctor" for treatment. In many low- and middle-income countries, prescription-only status is poorly enforced, and people can generally buy any medicine at pharmacies without asking their doctors. In countries where prescription-only status is well enforced, such unbranded campaigns have been shown to result in more prescriptions (49).

The promotion of non-evidence-based screening tests is not regulated and is a growing concern, particularly as direct-to-consumer laboratory tests become increasingly available, notably through the internet (digital marketing). Companies heavily promote packages of screening tests that individuals can purchase regardless of their age and risk factors. Private clinics market "full check-ups" to health-conscious consumers, typically involving blood tests and full-body imaging. Most of these screening tests and procedures are conducted without any valid medical indication, and their sensitivity/specificity is unclear. Furthermore, their capacity to reduce the incidence or mortality of NCDs is absolutely not demonstrated. These tests are not part of any established screening pathway nor are they subject to a quality assurance scheme; therefore, if an abnormal result is detected, it can lead to all sorts of diagnostic procedures and overtreatment. Many of the unnecessary diagnostic procedures and treatments resulting from such "wild screening" are not only costly but can also cause mental and/or physical harm to individuals who were originally in good health (50).

Case Study 3. Promotion of surgery robots and its consequences in the United Kingdom

Another example of how industry promotion and marketing strategies can negatively affect NCD care and deepen inequalities is from the medical device industry. In the last two decades, the Da Vinci Robotic Surgical System has been one of the major new technologies within cancer care. The device was approved by the United States Food and Drug Administration (FDA) in 2000 and enables surgeons to undertake minimally invasive surgery while sitting at a console to operate remote-controlled arms. The number of robotic systems, offering different console options, image enhancement and size, is also growing rapidly with numerous manufacturers now in the market offering more technical or lower cost options (51). Expected advantages of this technique included improved ergonomics for the surgeon, better visualization of the surgical field, and an enhanced range of motion within the surgical field, which is expected to translate into improvements in patient outcomes, particularly when compared to open and laparoscopic techniques (52). However, the improved functional and oncological outcomes have failed to materialize for a range of cancer types (53-55). Despite the lack of clear evidence, it has undergone rapid adoption across the United States and Europe, even penetrating many middle- and low-income countries (56–57) (Fig. 4). It could now be considered the cornerstone of surgical treatment for prostate cancer in these countries and other cancers, such as colorectal and head and neck cancers, with increasing utilization across tumour types, despite the lack of level-one evidence and routine surgical procedures (52, 58, 59).



Fig. 4. – Grown in robotic surgery within particular anatomical disease areas.

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This rapid adoption is in part because robotic surgery and its marketing has become one of the most significant technological markers of reputation stimulating patient mobility for health-care services (61).

continued

In the English National Health Service (NHS), where health care is free at the point of use, the piecemeal adoption of robotic surgery for prostate cancer and colorectal cancer has resulted in the significant bypassing of local centres by men wishing to access these treatments at alternative centres where it was routinely available (62, 63). Over a six- to eight-year period, the number of robotic surgery sites increased from 25% to 90% for prostate cancer surgery (64) (Fig. 5). This occurred prior to commissioning/health technology guidance on its adoption. Essentially the market had supported its rapid adoption. The substantial levels of patient mobility, driven by the differential availability of robotic surgery, has meant that hospitals have needed to compete with other hospitals to retain their local patients and prevent a loss of income (64). This resulting competition contributed to the closure of one in four radical prostatectomy centres in the NHS and widespread adoption of robot-assisted radical prostatectomy. Similar processes are occurring across other tumour types at present (62).

Fig. 5. Changes in the number of robotic centres and total number of centres in the NHS in United Kingdom (England) (2009–2017)



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Policy considerations and implications

The above case studies illustrate both the scope and force of industry opposition to restrictions on harmful marketing, which includes the marketing of products that are not harmful as such but can become harmful when marketed in certain ways. They also illustrate the power of public health advocates within CSOs to overcome such challenges and achieve legislative change for the benefit of public health.

- Strong and resilient collaborative actions within the public health community, including academics and lawyers, have enabled several governments to restrict the marketing of food, alcohol, and tobacco, as well as medical products despite industry pushback.
- Restrictive policies should be future-proofed where possible to reflect the rapidly shifting and innovative digital marketing ecosystem, and made sufficiently robust to minimize the existence of loopholes that could be exploited by industry to continue to promote their products in harmful ways, even after the implementation of restrictions.
- Regular monitoring, evaluation, and review must be built into the policy cycle, so any weaknesses in protection can be identified and resolved promptly. As a result, the maximum public health benefit can be realized, including meaningful reductions in health inequalities and NCD incidence across the Region and beyond.

References

- Crocetti AC, Cubillo Larrakia B, Lock Ngiyampaa M, Walker Yorta Yorta T, Hill Torres Strait Islander K, Mitchell Mununjali F, et al. The commercial determinants of Indigenous health and well-being: a systematic scoping review. BMJ Glob Health. 2022;7(11):e010366. doi: 10.1136/bmjgh-2022-010366.
- 2. Backholer K, Gupta A, Zorbas C, Bennett R, Huse O, Chung A, et al. Differential exposure to, and potential impact of, unhealthy advertising to children by socio-economic and ethnic groups: A systematic review of the evidence. Obes Rev. 2021;22(3):e13144. doi: 10.1111/obr.13144.
- Bernhardt AM, Wilking C, Adachi-Mejia AM, Bergamini E, Marijnissen J, Sargent JD. How television fast food marketing aimed at children compares with adult advertisements. PLoS One. 2013;8(8):e72479. doi: 10.1371/journal.pone.0072479.
- 4. Jernigan DH, Rushman AE. Measuring youth exposure to alcohol marketing on social networking sites: challenges and prospects. J Public Health Policy. 2014;35(1):91–104. doi: 10.1057/jphp.2013.45.
- 5. Venrick SJ, Kelley DE, O'Brien E, Margolis KA, Navarro MA, Alexander JP, et al. U.S. digital tobacco marketing and youth: A narrative review. Prev Med Rep. 2022;31:102094. doi: 10.1016/j.pmedr.2022.102094.
- 6. Achey TL. Subject: Product Information, 30 August 1978. Lorillard Tobacco Company; 1998. Bates No. 03537131-03537132.
- Struik LL, Dow-Fleisner S, Belliveau M, Thompson D, Janke R. Tactics for Drawing Youth to Vaping: Content Analysis of Electronic Cigarette Advertisements. J Med Internet Res. 2020;22(8):e18943. doi: 10.2196/18943.
- 8. Lyons A, Kersey K, Emslie C, Dimova E, Burrows A. Digital alcohol marketing and gender: A narrative synthesis. Drug and Alcohol Review. 2024. doi: 10.1111/dar.13849.
- Kelly B, Bosward R, Freeman B. Australian Children's Exposure to, and Engagement With, Web-Based Marketing of Food and Drink Brands: Cross-sectional Observational Study. J Med Internet Res. 2021;23(7):e28144. doi: 10.2196/28144.
- Montgomery KC, Chester J. Interactive food and beverage marketing: targeting adolescents in the digital age. J Adolesc Health. 2009;45(3 Suppl):S18-29. doi: 10.1016/j.jadohealth.2009.04.006.
- 11. Gerritsen S, Sing F, Lin K, Martino F, Backholer K, Culpin A, et al. The Timing, Nature and Extent of Social Media Marketing by Unhealthy Food and Drinks Brands During the COVID-19 Pandemic in New Zealand. Front Nutr. 2021;8:645349. doi: 10.3389/fnut.2021.64534.
- 12. Martino F, Brooks R, Browne J, Carah N, Zorbas C, Corben K, et al. The Nature and Extent of Online Marketing by Big Food and Big Alcohol During the COVID-19 Pandemic in Australia: Content Analysis Study. JMIR Public Health Surveill. 2021;7(3):e25202. doi: 10.2196/25202.
- 13. Coates A, Boyland E. Kid influencers a new arena of social media food marketing. Nat Rev Endocrinol. 2021;17(3):133-4. doi: 10.1038/s41574-020-00455-0.
- Noel JK, Babor TF. Does industry self-regulation protect young people from exposure to alcohol marketing? A review of compliance and complaint studies. Addiction. 2017;112 Suppl 1:51-6. doi: 10.1111/add.13432.
- 15. Noel JK, Babor TF, Robaina K. Industry self-regulation of alcohol marketing: a systematic review of content and exposure research. Addiction. 2017;112 Suppl 1:28-50. doi: 10.1111/add.13410.
- Huizinga O, Kruse M. Food industry self-regulation scheme "EU Pledge" cannot prevent the marketing of unhealthy foods to children. Obesity Medicine. 2016;1:24–8. https://doi.org/10.1016/j.obmed.2016.01.004.
- 17. Parajea G, Colchero A, Wlasiukc JM, Sota AM, Popkin BM. The effects of the Chilean food policy package on aggregate employment and real wages. Food Policy. 2021;100. https://doi.org/10.1016/j.foodpol.2020.102016.
- Garde A. Global health law and non-communicable disease prevention: maximizing opportunities by understanding constraints. In: Burci GL, Toebes B, editors. Research Handbook on Global Health Law. Edward Elgar Publishing; 2018.
- 19. Garde A, Byrne S, Gokani N, Murphy B. 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. 2017;8(02):327–41. doi:10.1017/err.2017.26.
- 20. McGrady B. Trade and Public Health: The WTO, Tobacco, Alcohol, and Diet. Cambridge University Press; 2011.
- 21. George AA. An Unwelcome Seat at the Table: The Role of Big Food in Public and Private Standard-Setting and its Implications for NCD Regulation. QUT Law Review. 2018;18(1):156–68. doi: https://doi.org/10.5204/qutlr.v18i1.726.
- 22. Introducing further advertising restrictions on TV and online for products high in fat, salt and sugar: government response (Consultation outcome). In: GOV.UK/Parenting, childcare and children's services/Children's health and welfare/Children's health. 2021 (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, accessed 6 June 2024).
- 23. Obesity Health Alliance. In: Obesity Health Alliance/Home [website]. (https://obesityhealthalliance.org.uk/, accessed 6 June 2024).
- 24. Bite Back. In: Bite Back 2023/Home [website]. (https://www.biteback2030.com/, accessed 5 June 2024).
- 25. Children's Food Campaign. In: Sustain [website]. London: Sustain; 2024 (https://www.sustainweb.org/childrens-food-campaign/, accessed 6 June 2024).
- Montgomery KC, Chester J. Regulating the Digital Obesogenic Ecosystem: Lessons from the 20-year Effort to Pass the United Kingdom's Online Ban on Unhealthy Food and Beverage Advertising. In: Center for Digital Democracy [website]. 2024 (https://democraticmedia.org/reports/regulating-the-digital-obesogenic-ecosystem, accessed 6 June 2024).
- 27. Institute for Economic Affairs. Validity of research on banning junk food advertising questioned 2022 [Available from: https://iea.org.uk/media/validity-of-research-on-banning-junk-food-advertising-questioned/.
- IAB. Government postpones HFSS online ad ban to 2024 2022. In: iab.UK [website]. London: iab.UK; 16 May 2022 (https://www.iabuk.com/ news-article/government-postpones-hfss-online-ad-ban-2024, accessed 6 June 2024).
- 29. Jamie Oliver attacks Boris Johnson over plan to allow junk food adverts online. In: The Times [website]. The Times; 5 April 2021 (https://www.thetimes. co.uk/article/jamie-oliver-attacks-johnson-over-plan-to-allow-junk-food-adverts-online-rk58dcmqj, accessed 6 June 2024).
- 30. A 'watershed' moment. Why its prime time to protect children from junk food adverts. Obesity Health Alliance; 2017 (https://obesityhealthalliance. org.uk/wp-content/uploads/2017/11/A-Watershed-Moment-report.pdf, accessed 6 June 2024).
- 31. Child protection from junk food marketing still woefully inadequate. In: Sustain/News/Children's Food Campaign [website]. London: Sustain; 2019 (https://www.sustainweb.org/news/dec19_asa/, accessed 6 June 2024).
- An End to Junk Food Marketing Online: Policy Position. Obesity Health Alliance; 2020 (https://obesityhealthalliance.org.uk/wp-content/uploads/2020/11/Ending-junk-food-marketing-online-position-paper.pdf, accessed 6 June 2024).
- ANPAA, France: Exposing Big Alcohol Lobbying. In: Movendi International [website]. Stockholm: Movendi International; 30 April 2019 (https://movendi.ngo/news/2019/04/30/exposing-big-alcohol-lobbying/, accessed 6 June 2024).
- Friant-Perrot M, Garde A. The Regulation of Alcohol Marketing in France: The Loi Evin at Thirty. J Law Med Ethics. 2022;50(2):312-6. doi: 10.1017/ jme.2022.57.

- Gallopel-Morvan K, Spilka S, Mutatayi C, Rigaud A, Lecas F, Beck F. France's Evin Law on the control of alcohol advertising: content, effectiveness and limitations. Addiction. 2017;112 Suppl 1:86–93. doi: 10.1111/add.13431.
- Association Nationale de Prevention en Alcoologie et Adictiologie (ANPAA) [The National Association for Prevention in Alcoholology and Addictology]. Observatoire sur les pratiques des lobbies de l'alcool [Observatory on Alcohol Lobby Practices]. 2019.
- 37. Murray R, Breton MO, Britton J, Cranwell J, Grant-Braham B. Carlsberg alibi marketing in the UEFA euro 2016 football finals: implications of Probably inappropriate alcohol advertising. BMC Public Health. 2018;18(1):553. doi: 10.1186/s12889-018-5449-y.
- France: Alcohol Advertising Ban Wins Case in High-Court. In: Movendi International [website]. Stockholm: Movendi International; 19 June 2019 (https://movendi.ngo/news/2020/06/19/france-alcohol-advertising-ban-wins-case-in-high-court/, accessed 6 June 2024).
- 39. Technical report: pricing of cancer medicines and its impacts: a comprehensive technical report for the World Health Assembly Resolution 70.12: operative paragraph 2.9 on pricing approaches and their impacts on availability and affordability of medicines for the prevention and treatment of cancer. Geneva: World Health Organization; 2018 (https://iris.who.int/handle/10665/277190, accessed 6 June 2024). License: CC BY-NC-SA 3.0 IGO.
- 40. Molina M, Boëffard A, Esvan M, Bastian. Medical students' exposure to and attitudes towards product promotion and incentives from the pharmaceutical industry in 2019: a national cross-sectional study in France BMJ Open. 2022;12(7):e045671. doi: 10.1136/bmjopen-2020-045671.
- 41. Fabbri A, Hone KR, Hróbjartsson A, Lundh A. Conflict of Interest Policies at Medical Schools and Teaching Hospitals: A Systematic Review of Cross-sectional Studies. Int J Health Policy Manag. 2022; 11 (8):1274–85. doi: 10.34172/ijhpm.2021.12
- 42. Grabitz P, Friedmann Z, Gepp S, Hess L, Specht L, Struck M, et al. Quantity and quality of conflict of interest policies at German medical schools: a cross-sectional study and survey. BMJ Open. 2020;10(9):e039782. doi: 10.1136/bmjopen-2020-039782.
- 43. Understanding the Opioid Overdose Epidemic. In: CDC/Overdose Prevention [website]. U.S. Centers for Disease Control and Prevention; 2024 (https://www.cdc.gov/opioids/basics/epidemic.html, accessed 6 June 2024).
- 44. Van Zee A. The promotion and marketing of oxycontin: commercial triumph, public health tragedy. Am J Public Health. 2009;99(2):221–7. doi: 10.2105/AJPH.2007.131714.
- 45. Spurling GK, Mansfield PR, Montgomery BD, Lexchin J, Doust J, Othman N, et al. Information from pharmaceutical companies and the quality, quantity, and cost of physicians' prescribing: a systematic review. PLoS Med. 2010;7(10):e1000352. doi: 10.1371/journal.pmed.1000352.
- 46. Interactions des professionnels de santé avec les représentants de l'industrie [Interactions of healthcare professionals with industry representatives]. In: Haute Autorité de Santé/Industrial/Means of information/Promotional information/Medical visit [website]. Haute Autorité de Santé; 2022 (https:// www.has-sante.fr/jcms/p_3395221/fr/interactions-des-professionnels-de-sante-avec-les-representants-de-l-industrie, accessed 6 June 2024).
- 47. Dyer O. Disease awareness campaigns turn healthy people into patients. BMJ. 2006;332(7456):871. doi:10.1136/bmj.332.7546.871.
- Adams B. GlaxoSmithKline's Shingrix campaign irks some in UK, but pharma adamant it broke no rules. In: FIERCE Pharma/Marketing [website]. Fierce Pharma; 11 March 2022 (https://www.fiercepharma.com/marketing/glaxosmithklines-shingrix-campaign-irks-some-uk-pharma-adamantit-broke-no-rules, accessed 6 June 2024).
- Understanding and Responding to Pharmaceutical Promotion. A practical guide. World Health Organization, Health Action International (https:// haiweb.org/wp-content/uploads/2015/05/Pharma-Promotion-Guide-English.pdf, accessed 23 May 2024).
- 50. Singhal S, Deokar K, Verma M. Commercial screening tests: Beneficial or a hypnosis to advertisements? J Postgrad Med. 2022;68(4):231–2. doi: 10.4103/jpgm.jpgm_300_22.
- 51. Almujalhem A, Rha KH. Surgical robotic systems: What we have now? A urological perspective. BJUI Compass. 2020;1(5):152–9. doi: 10.1002/ bco2.31.
- 52. Wright JD. Robotic-assisted surgery: Balancing evidence and implementation. JAMA. 2017;318(16):1545-7. doi: 10.1001/jama.2017.13696.
- Jayne D, Pigazzi A, Marshall H, Croft J, Corrigan N, Copeland J, et al. Effect of robotic-assisted vs conventional laparoscopic surgery on risk of conversion to open laparotomy among patients undergoing resection for rectal cancer: The ROLARR randomized clinical trial. JAMA. 2017;318(16):1569–80. doi: 10.1001/jama.2017.7219.
- 54. Ilic D, Evans SM, Allan CA, Jung JH, Murphy D, Frydenberg M. Laparoscopic and robot-assisted vs open radical prostatectomy for the treatment of localized prostate cancer: a Cochrane systematic review. BJU Int. 2018;121(6):845–53. doi: 10.1111/bju.14062.
- Ramirez PT, Frumovitz M, Pareja R, Lopez A, Vieira M, Ribeiro R, et al. Minimally Invasive versus Abdominal Radical Hysterectomy for Cervical Cancer. N Engl J Med. 2018;379(20):1895–904. doi: 10.1056/NEJMoa1806395.
- Barbash GI, Glied SA. New Technology and Health Care Costs The Case of Robot-Assisted Surgery. N Engl J Med. 2010;363(8):701–4. doi: 10.1056/NEJMp1006602.
- 57. Ramsay C, Pickard R, Robertson C, Close A, Vale L, Armstrong N, et al. Systematic review and economic modelling of the relative clinical benefit and cost-effectiveness of laparoscopic surgery and robotic surgery for removal of the prostate in men with localised prostate cancer. Health Technol Assess. 2012;16(41):1–313. doi: 10.3310/hta16410.
- Kaye DR, Mullins JK, Carter HB, Bivalacqua TJ. Robotic surgery in urological oncology: patient care or market share? Nat Rev Urol. 2015;12(1):55– 60. doi: 10.1038/nrurol.2014.339.
- Sheetz KH, Claflin J, Dimick JB. Trends in the Adoption of Robotic Surgery for Common Surgical Procedures. JAMA Netw Open. 2020;3(1):e 1918911. doi: 10.1001/jamanetworkopen.2019.18911.
- 60. Horn D, Sacarny A, Zhou A. Technology adoption and market allocation: The case of robotic surgery. J Health Econ. 2022;86:102672. doi: 10.1016/j. jhealeco.2022.102672.
- 61. Aggarwal A, Han L, Boyle J, Lewis D, Kuyruba A, Braun M, et al. Association of Quality and Technology With Patient Mobility for Colorectal Cancer Surgery. JAMA Surg. 2023; 158(1):e225461. doi: 10.1001/jamasurg.2022.5461.
- 62. Aggarwal A, Lewis D, Charman SC, Mason M, Clarke N, Sullivan R, et al. Determinants of Patient Mobility for Prostate Cancer Surgery: A Population-based Study of Choice and Competition. Eur Urol. 2018;73(6):822–5. doi: 10.1016/j.eururo.2017.07.013.
- Aggarwal A, Lewis D, Mason M, Purushotham A, Sullivan R, van der Meulen J. Effect of patient choice and hospital competition on service configuration and technology adoption within cancer surgery: a national, population-based study. Lancet Oncol. 2017;18(11):1445–53. doi: 10.1016/ S1470-2045(17)30572-7.