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Exploring Dutch municipal advertising restrictions on unhealthy and unsustainable products

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ABSTRACT

Purpose: This study examined the perspectives of policy officials affiliated with Dutch municipalities exploring advertisement restrictions on unhealthy and unsustainable products in public outdoor spaces.
Methods: In this qualitative study, Dutch municipal policy officials were interviewed in person or online via semi-structured interviews in autumn 2024. Interviews covered the content of proposed restrictions, the municipality's policy phase, key stakeholders, barriers, facilitators, and policy goals. Interviews were audio-recorded and transcribed verbatim. Analysis was based on a thematic content analysis.
Results: We interviewed 18 policy officials from 13 Dutch municipalities. They indicated that advertisement restrictions were often initiated by left-wing council members, driven by the combination of a momentum (e.g., commitment to a healthy and green future), a favourable political climate (e.g., demand for restrictions from local political parties), and a policy window (e.g., revising municipality advertisement policies). They indicated that the development, implementation and long-term viability of advertisement restrictions depended on policy consistency (e.g., establishing definitions of products to restrict), managing the risks to policy implementation (e.g., financial losses following reduced advertisement revenue) and practical barriers (e.g., existing tenders). Some policy officials doubted the impact of these restrictions on consumer behaviours, but speculated that their signalling effect could affect public support for similar policies.
Conclusion: Political will, momentum and an opening policy window allowed for the development and sometimes implementation of advertisement restrictions. Future research should explore wider stakeholder support for these policies, how to effectively mitigate perceived risks associated with their implementation, and their long-term impact on consumer behaviours.

1. Background

Excessive consumption of unhealthy and unsustainable products harms both planetary and public health. Major contributors include red meat and fossil fuel-based products or services like fast fashion and airline travel. (Hemler and Hu, 2019; Lawrence, 2023; Romanello et al., 2022; Willett et al., 2019; Niinimäki et al., 2020; Clark et al., 2022) The physical and digital environment, with its cues and pervasive advertisements that surrounds individuals, plays a significant role in driving their consumption patterns. (Ellithorpe et al., 2022) Research shows that higher advertisement spending increases purchases. (Brulle and Young, 2007; Molinari and Turino, 2018; Norman et al., 2016; Lesser et al., 2013) For instance, every 10 % increase in food advertisements of soft drinks in public spaces correlates with a 6 % rise in soft drink consumption and a 5 % higher obesity risk. (Lesser et al., 2013).

Advertisements influence consumption patterns by increasing

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product attractiveness, demand, and perceived necessity through techniques like role modelling and repeated exposure, fostering positive brand and product associations. (Fennis and Stroebe, 2020; Hütter and Sweldens, 2018; López-Guimerà et al., 2010) Or, an advertising company described it as: "Brands advertisements become part of the public social space, entering people's thoughts and conversations." (Merriman, 2020) Advertisements also shape social norms: what consumers believe others buy (descriptive norms) and what is deemed acceptable (injunctive norms). (La Ferrara, 2016; Dastidar et al., 2023) Consumers internalize these norms, seeking guidance and social approval. (Spears, 2021) As a result, advertisements for unhealthy and unsustainable products normalize and promote consumption and have broader societal consequences, such as an influence on developing perceptions of children and adolescents. (Stubenvoll and Neureiter, 2021; Boyland et al., 2022) Although it is notoriously difficult to capture advertisement exposure accurately, (Tatlow-Golden et al., 2021; Scott et al., 2023) unhealthy and unsustainable product advertisement is widespread on television, websites, mobile apps, schools, retail and public transport stops. (Chung et al., 2022; Noel et al., 2020; Watkins et al., 2022; Olsen et al., 2021) Restricting them via governmental policies can ensure that these products become less promoted, normalized and attractive, signals moral disapproval, and has the potential to shift both demand and supply toward healthier, more sustainable alternatives. (Nyborg et al., 2016; Bouman et al., 2023; Boyland et al., 2022).

Global interest in and support for advertisement restrictions on unhealthy and unsustainable consumption is growing. (Staples and Kalaitzandonakes, 2025; Francis et al., 2025; Bouman et al., 2025) In June 2024, the United Nations urged governments to broadly ban fossil fuel ads in a similar fashion as tobacco restrictions. (Rush, 2024) Restricting unhealthy and unsustainable product advertisements can take place at an international, national or local level and focus on a variety of transmission modes (e.g., print, broadcast, social media). Although there may be no legal barriers to advertisement restriction policies, (Kaupa, 2023) national and local initiatives remain limited. (Chung et al., 2021) For instance, London restricted unhealthy food and beverage advertisements in public transport in 2019. This led to a 6.7 % drop in household purchases of unhealthy foods and a 19.4 % reduction in confectionery purchases. (Yau et al., 2022) Local governments across a growing number of countries are now exploring possibilities to restrict fossil fuel, meat, or unhealthy food advertisements. (Fossil Free Advertising, 2024; Scott et al., 2023; Boffey, 2022; Sustain, , 2024; Buckland et al., 2024; Borland, 2025; Australian Government - Department of Health DaA, 2018) Nevertheless, a 2022 study found that only 7,5% of England's local authorities have a policy in place that restricts unhealthy food advertisement and sponsorship. (McKevitt et al., 2023).

The process of designing and adopting policies related to advertisement restrictions is inherently complex, shaped by the involvement of multiple stakeholders with differing priorities and interests. Advertisement restrictions may clash with the prevailing neoliberal political climate, drawing opposition from departments or council members with different interests, (Phulkerd et al., 2022) industry representatives, (Lauber et al., 2021) and from citizens who may view consumption choices as personal decisions that are unaffected by advertisements. (Nolan et al., 2008; Payne and Lundberg, 2014; Wopereis et al., 2024) Additionally, the 'nanny state' discourse may weaken local councils' electoral support and create internal divisions, leading to resistance and hindering the adoption of advertisement restrictions. (Phulkerd et al., 2022; Phulkerd et al., 2017).

Understanding the initiation, development, and implementation processes of advertisement restrictions can provide valuable insights for local and national governments looking to enact similar measures. This study focused on Dutch municipalities, including a subset of pioneering local governments who are intending to implement the first advertisement restrictions on unhealthy ánd unsustainable products or services, such as meat and fossil fuel-based products, in outdoor public spaces. (Boffey, 2022; Kaminski, 2024) Outdoor public spaces refer to outdoor advertisement spaces that fall under the administrative authority of the municipality, such as streets, parks, public transit stops and other public facilities. This context presents a unique research opportunity to explore the factors supporting and hindering progress and to better understand the dynamics of local policy development, including an exploration of the available legal routes for and scope of advertisement restrictions. As such, this study aimed to examine local policy officials' perspectives on restricting advertisements for unhealthy and unsustainable products or services in outdoor public spaces through qualitative interviews. The primary focus was on why and how municipalities are currently (not) engaging in or considering advertisement restrictions in outdoor public spaces, whereby we aimed to provide a broader understanding of the policy processes underpinning the development and implementation of the advertisement restrictions, the barriers and facilitators encountered during this process and which goals advertisement restrictions seek to achieve.

2. Methods

2.1. Study setting and recruitment of policy officials

This qualitative case study focused on Dutch municipalities. (Stake, 1995) The Netherlands has a system of one national government which is subdivided into 342 municipalities. Municipalities significantly vary in terms of population size, ranging from 927 to 931,298 citizens. (CBS, 2024) Municipalities were selected based on an inventory commissioned by the 'City Deal for a Healthy and Sustainable Food Environment', which listed municipalities with purported advertisement restrictions. This list was supplemented with additional municipalities who may have considered advertisement restrictions (currently or previously, based on news media reports), including the ten largest municipalities in the Netherlands.

Municipal policy making in the Netherlands is a collaborative process between elected political actors (policy makers in the municipal council and aldermen) and civil servants (policy officials). Municipal council members vote on/for policies, and aldermen develop and implement them. Aldermen are therefore the persons formulating, proposing and implementing policies. Policy officials support aldermen and municipal council members through technical and administrative support tasks such as doing background research or executing proposals. We recruited policy officials through the research team's professional networks and direct outreach based on convenience sampling. Eligible participants were policy officials currently employed by a municipality and who were or could theoretically be involved in policies related to advertisement restrictions on unhealthy and unsustainable products. Invitations were sent via email to policy officials located in both municipalities considering restrictions and those who were not at the time of recruitment. Duo-interviews were proposed, encouraging each policy official to invite a colleague from another municipal department since generally multiple departments are involved in the policy process. This approach aimed to capture diverse municipal perspectives. Recruitment initially targeted policy officials from 12 municipalities, with the option to expand if data saturation was not reached.

The study was conducted in accordance with the Declaration of Helsinki. This protocol was approved by the Medical Ethics Committee of the Amsterdam University Medical Center (ref.no. 2024.0693). All interested policy officials were informed on the study procedures via a standardised information letter prior to study enrolment. Digital informed consent was obtained before study enrolment. Reporting of this article followed the *Consolidated criteria for reporting qualitative studies* (COREQ) guideline. (Tong et al., 2007).

2.2. Interviews

All interviews took place in Autumn 2024, conducted independently by authors JMS (a postdoctoral epidemiologist and nutritionist

experienced in qualitative research) and DB (a predoctoral epidemiologist experienced in qualitative research). Interviewers had no prior established relationship with any of the interviewees. Interviews were held on-site or via online videocalls in Microsoft Teams, based on participant preference. They lasted 20–50 min and followed a semi-structured protocol (Supplementary Table 1). Interviews were of an exploratory nature and not based on a specific theoretical framework, although the interview guide was informed by previous studies on (barriers to) health and sustainability policies. (Meiksin et al., 2022; Thanekar et al., 2024; Hassan et al., 2024) They began with an introduction and an overview of the interviewee's role in policymaking. Topics included proposed restrictions, the municipality's current policy phase (e.g., agenda-setting, formulation, implementation, or evaluation (Jann and Wegrich, 2007), the barriers and facilitators to implementation, and the policy goals of advertisement restrictions. All interviews were audio-recorded and transcribed verbatim, with identifying information removed. Interviewees were invited to review and comment on transcripts for accuracy.

2.3. Data analysis

Transcripts were uploaded into MAXQDA software (VERBI Software, 2025) for analysis. Transcripts were coded descriptively and qualitatively analysed through a thematic content analysis. (Braun and Clarke, 2008) Based on previous literature and experiences in the interviews, JMS constructed an initial codebook covering relevant descriptive characteristics of the respondents and the discussed advertisement restrictions, as well as potential codes related to the policy process and barriers and facilitators for implementation. Both JMS and JDM (a senior researcher and epidemiologist experienced in qualitative research) independently used this initial codebook to code the first interview according to an iterative process and semi-open coding technique. The coding of this first interview was discussed in detail until consensus on the assignment of codes to text was reached. Accordingly, the codebook was substantially revised and used to independently code the next two interviews (JDM and JMS). Again, coding was discussed until consensus was reached. Using an again updated codebook, JMS coded half of the remaining transcripts and DB the other half. Both authors continued to add new emerged codes to the codebook whenever necessary. Next, both authors evaluated each other's coded interviews in detail and discussed discrepancies. Changes to the codebook were logged during the coding process. Ultimately, the final code book included 181 codes out of which 98 % were established before coding the last interview, indicating data saturation was reached. All codes were reviewed and discussed with the research team to identify overarching themes. The distinctive character of the themes and the contribution of codes to each theme was discussed among the research team until consensus was reached. Results were presented in tabular format to enhance trustworthiness. (Cloutier and Ravasi, 2021) Interviewees were not invited to provide feedback on the findings.

3. Results

3.1. Municipality and policy officials' characteristics

We invited policy officials from 25 Dutch municipalities, with 13 municipalities participating, two declining (due to undefined circumstances, and perceived lack of value of participation due to having not implemented advertisement restrictions) and 10 not responding. We ultimately interviewed 18 policy officials affiliated with the 13 included municipalities. Of these 13, 11 were among the 20 largest in the Netherlands. Respondents were affiliated with a range of departments, namely spatial planning (n = 6), public health (n = 6), contract management (n = 2), sustainability (n = 2), legal affairs (n = 1) and permits (n = 1). Respondents explained that municipalities generally host various types of advertisement outlets (often in bus shelters, on individual digital displays, at lamppost, and on billboards) and advertising is typically managed through advertisement operators and tender processes, generating significant municipal revenue.

3.2. Policy characteristics

Descriptive analyses of the interviews with policy officials revealed that most municipalities were in the early stages of formulating advertisement restrictions on unhealthy and unsustainable products. Initiatives were often driven by local politicians of left-wing parties or sometimes by policy officials in the sustainability and health domains who successfully lobby for political support. The process often involved scenario exploration, consultations with other municipalities and external stakeholders, and defining which products should be restricted.

Table 1 shows the current policy phase and proposed focus of the advertisement restriction per interviewed municipality. In two municipalities, advertisement restrictions were no longer on the agenda, as previous motions were rejected by the municipal council. For one of

Table 1
Current policy phase* and (proposed) focus of the advertisement restriction per municipality.

Municipality #	Policy phase	Public or private law	Focus of advertisement restriction
6	Not on the agenda: motions rejected by municipal council	–	–
11	Not on the agenda: motions rejected by municipal council	–	–
3	Policy formulation	Private law	Fossil fuels and meat
5	Policy formulation	Public law	Fossil fuels
8	Policy formulation	Private law	Fossil fuels and unhealthy foods
9	Policy formulation	Private law	Unhealthy foods
10	Policy formulation	Private law	Fossil fuels, meat, alcohol and unhealthy foods
1	Policy implementation[$]: implemented for lamppost advertisement, other outlets will follow once tenders end in a couple of years (undefined)	Private law	Fossil fuels, meat, and alcohol
2	Policy implementation: implemented for bus shelters, other outlets follow in 2026–2028	Private law	Fossil fuels and meat
4	Policy implementation: implemented for lamppost advertisement and parking garage digital screens, bus shelters and individual digital screens will follow in 2026	Private law	Fossil fuels and meat
7	Policy implementation: waiting for tenders to end in 2029	Private law	Fossil fuels
12	Policy implementation: implemented for lamppost advertisement, other outlets will follow once tenders end in a couple of years (undefined)	Private law	Fossil fuels, meat and dairy
13	Policy implementation: planned to be implemented for all outlets as of 2025	Public law	Fossil fuels

*During autumn 2024.
[$]Self-reported implementation.

these municipalities, the policy official did not know reasons for the lack of political support, whereas the policy official of the other municipality stated that the council did not wish to impose any restrictions on businesses. In five municipalities the council had voted in favour of advertisement restrictions and they were currently in the policy formulation phase, while six municipalities had developed a policy and moved into the implementation phase. Most often, fossil fuel-based goods or services and meat were the focus of the advertisement restrictions, and a few targeted unhealthy food and beverages, alcohol, or dairy advertisements.

Policy officials stressed different routes for potential regulations with a key distinction between restrictions via public versus private law. Under private law, only advertisements managed through municipal tenders are affected, often only applied to new contracts. At the time of the interviews, four municipalities had moved to the implementation phase and had actually enacted advertisement restrictions under private law in new tenders. However, for three of these municipalities, the restrictions only applied to a specific type of advertisement outlet—lamppost advertisements—where the restricted products were rarely advertised to begin with. Lamppost advertisements were typically used for local cultural displays and not used by large companies or brands who would advertise for fossil fuel-based products and meat. Policy officials explained that the fossil fuel and meat advertisements were most often found in bus shelters and individual digital displays. As such, policy officials indicated that actual implementation remained limited, considering municipalities were waiting for existing tenders with advertising operators to expire before implementing the advertisement restrictions across all types of advertisement outlets. Under public law, restrictions would extend to all advertisements within the municipality – also those by for example local business owners. During the interviews, two municipalities planned to restrict fossil-fuel advertisements under public law, out of which one was in the policy formulation phase while the other had moved to the policy implementation—which was planned for 2025.

3.3. Identified themes

Supplementary Table 2 provides an overview of the seven identified themes, 26 related sub-themes, their meaning and examples of supporting quotes, illustrating why and how municipalities are currently (not) engaging in or considering advertisement restrictions in outdoor public spaces. A narrative summary of the most prominent findings for each theme is provided below.

3.3.1. Current momentum for prioritizing environmental sustainability and public health

Policy officials highlighted factors that contributed to a cultural and societal shift towards prioritizing environmental sustainability and public health, illustrating a current momentum for advertisement restrictions. They, for example, mentioned the United Nations Secretary General's call to ban fossil fuel advertisements and advertisement operators who prepare for 'future-proof' advertising strategies. Furthermore, they explained that many municipalities have committed to contribute to healthy and sustainable living environments, whereas advertisement restrictions seem one of the few practical tools municipalities can leverage to do so. As one policy official explained: "*Sustainability and the entire transition to alternative fuels, as well as efforts to restrict products that are inherently polluting as much as possible—municipalities actually have very few, if any, tools for this, except for this one.*" (Interviewee #12.1).

3.3.2. Role of political climate in shaping advertisement restrictions

The current political climate plays a key role in determining whether an advertisement restriction will be enacted. Policy officials explained that local left-wing parties in the municipal council often initiate the debate on potential advertisement restrictions: "*In our municipality we have a very progressive left-wing coalition that has truly taken a bold stand on this issue.*" (Interviewee #4.1) A number of policy officials mentioned that left-wing council members are generally also more inclined to support a proposed advertisement restriction, while more right-wing leaning members tend to oppose it. Policy officials explained that more right-wing leaning parties were perceived to reject advertisement restrictions based on the idea that this would be 'nanny state' interference. Policy officials noted the tension that debating the desired degree of government intervention can instigate within a council: "*But you can clearly see the tension: to what extent should the government intervene, and where should it draw the line?*" (Interviewee #1.1) Furthermore, policy officials emphasized the role of political short-termism in the development and continuation of advertisement restrictions: "*It is temporary, because these governing agreements are only valid for the duration of an electoral term. When new elections come around, the political landscape can shift entirely once again.*" (Interviewee #9.2) This temporary basis leads to a form of political opportunism with regards to advertisement restrictions, since they lack wide-spread structural implementation, which only national policies could achieve. Lastly, interviewees mentioned that municipal aldermen who support advertisement restrictions can play a crucial role in driving these policy initiatives forward: "*In the meantime, we also noticed that we currently have an alderman for public health who is really eager to take the lead in promoting a healthy and sustainable food environment.*" (Interviewee #7.1).

3.3.3. Emergence of a policy window for advertisement restrictions

Policy officials mentioned several factors contributing to the emergence of a policy window to implement advertisement restrictions. They explained that periodic revisions of municipal advertisement policies or health agendas could create opportunities to propose potential advertisement restrictions to council members. Additionally, restrictions implemented in other municipalities, along with the national initiative 'City Deal for a Healthy and Sustainable Food Environment,' were also mentioned to serve as inspiration to a municipality for introducing similar measures. Furthermore, the expiration of tender permits with advertisement operators was also perceived as a chance to renegotiate terms or introduce new conditions by the municipality: "*We're now in the process of finalizing those contracts.* (…) *That's actually a bit of an advantage in* [municipality], *because we're lucky here that our contracts are relatively short-term and come to an end soon*" (Interviewee #4.1).

3.3.4. Factors influencing policy consistency

Policy officials outlined various factors that influence policy consistency, i.e., the alignment and consistency of different aspects of advertisement policies. Policy officials emphasized the importance yet difficulty of clearly defining the scope of advertisement restrictions, in particular which specific products should be restricted. They indicated that this process was often more complex than it initially appeared: "*How far do you go? For example, it was said, we don't grow avocados here, so how do you think they get to the Netherlands? Should we restrict that too—because that's tied to fossil fuels*?" (Interviewee #13.1) Moreover, policy officials frequently discussed the risk of unintended consequences arising from specific definitions underlying potential advertisement restrictions. For instance, they highlighted shifts in advertisements from specific products to branding or emotional appeal. To address this, one municipality restricted 'issue and image building' by brands or companies: "*Our advertising policy also states that no 'issue and image building' is allowed. This means, for example, that* [large fossil fuel company] *cannot just advertise with its logo alone*." (Interviewee #13.1) Policy officials also mentioned the risk of advertisers bypassing restrictions by shifting from public spaces to other venues, such as online platforms which would not be covered by the restrictions. Last, it was mentioned that the private law approach has a major disadvantage as it could potentially confuse municipal residents and could negatively influence policy consistency. Advertisements regulated by the municipality must comply with the advertisement restrictions, while those placed by local business owners

on privately managed outdoor advertisement spaces are not subject to the same restrictions.

Policy officials recurrently advocated for national advertisement restrictions, as this would reduce the workload for municipalities in the policy development, reduce potential legal risks (e.g., risk of lawsuits by advertising operators or major compagnies when enforcing an advertisement restrictions under public law), ensure consistency across different regions, and provide clear guidelines for advertisement operators, which would thus lead to more better policy consistency: "*We always prefer having national policy in place. That way, we can rely on it, and there is no debate, because ideally, we don't want to make decisions that we can't fully justify legally*." (Interviewee #2.2).

3.3.5. Financial and legal risks to policy implementation

Policy officials noted there are conflicting interests within municipalities to manage, which can be seen as a potential risk to the long-term viability of advertisement restrictions. Potential financial losses for the municipality were the most prominent barrier for implementation. Reduced advertisement revenues might lead to smaller budgets for other societal needs: *"Advertisement revenues also contribute to the municipal budget, which is then spent on various purposes that also touch on sustainability, education, and other societal interests, right? So, if the revenues decrease, it means that you'll have a counteracting effect, and you'll have less to spend on those kinds of ambitions."* (Interviewee #11.1) Other policy officials suggested that it could lead to higher taxes for citizens, implying that advertisement restrictions might not be feasible or garner limited public support.

However, since the actual implementation of advertisement restrictions was still low, it remained uncertain how the financial losses would unfold exactly. While some policy officials expressed concerns that restrictions could potentially result in fewer advertisements, others were confident that the restricted advertisements would be replaced by other types of advertisement which are not restricted, or believed that any financial consequences should be accepted and addressed when implementing advertisement restrictions: "*We really need to stand firm on this* [advertisement restrictions] *and consciously make the decision as a municipality that we no longer want this in the future, even if it will financially impact us*." (Interviewee #7.1).

Policy officials also stated there are potential legal risks, particularly related to the public law approach that was considered high legal risk due to its novelty. Some policy officials were uncertain about how it would be handled in court. There was concern that advertising operators or major companies might challenge these restrictions, who would argue that the restrictions would conflict with a companies' freedom of speech rights. However, some policy officials were confident that an exception to the freedom of speech would apply in cases involving harmful commercial activities: "*In Dutch law, you have freedom of speech, which is very important in this whole story, but there is an exception to that freedom of speech for commercial activities.* (…) *You can restrict that freedom when public health, safety, or other basic rights are at stake*." (Interviewee #4.1) One policy official noted that the municipality needed to allocate additional budget for potential legal procedures. The private law approach was perceived as involving low legal risk, as it relies on tender agreements that advertising operators voluntarily accept.

3.3.6. Practical barriers to advertisement restriction implementation

Two major practical barriers were raised by policy officials that might slow down or complicate the implementation of advertisement restrictions. The first related to existing tenders with advertising operators. Policy officials explained that they are typically long-term and many municipalities are cautious to breach these contracts as they prioritize maintaining good relationships with advertising operators, wish to be a trustworthy governmental partner and do not desire lawsuits. Yet, a few municipalities successfully negotiated changes in the types of advertisements during the course of existing contracts, while some others were still in the process: "*The contracts still run until 2032. So, you actually have two options.* (…) *We will have those discussions and ask if they are willing to make concessions regarding the content now. If that doesn't yield results, the new contracts would provide an opportunity to make agreements aligned with the policy that will be established*." (Interviewee #3.2).

The second barrier related to the potential increased workload related to enforcement that implementing advertisement restrictions may dispose for the municipality. Some municipalities faced resistance from employees regarding potentially increased workload. In some cases, there were concerns about a lack of budget or capacity to monitor compliance with the restrictions: "*The management and implementation teams don't fully recognize, or at least not the value or necessity, of this* [advertisement restrictions]. (…) *Their main concern is being relieved of the added burden. They don't get any extra funding, and they don't understand why more money should be allocated since it costs more without advertisement revenue. Essentially, they just don't want an increased workload, and I can understand that."* (Interviewee #8.1) Some municipalities decided that there would be no capacity to ensure advertisement operators adhere to the restrictions. This issue was particularly pronounced in larger municipalities with numerous outdoor advertisement locations, and less in smaller municipalities with fewer advertisement spaces.

3.3.7. Hypothesized societal impact and signalling effect of advertisement restrictions

Policy officials expressed that the aim of advertisement restrictions was ultimately to reduce the consumption of unhealthy and unsustainable products or services, thereby minimizing their impact on public health, society and the environment. A few policy officials also expressed a desire to create high-quality public outdoor spaces, free from excessive advertising and the associated light pollution. However, there were also doubts about its effectiveness in changing consumption behaviours and thus its broader societal impact. First, because of the limited reach of the restrictions, given that citizens are continually exposed to various other forms of advertisement beyond the municipality's influence, such as online and on TV. Especially because advertisement is just one among several factors influencing consumer behaviour. Second, because regardless of the legal route taken, the outdoor advertisement policy has a limited scope due to the advertisement space that would be covered by the policy. And third, because effects would only be visible after existing tenders would end. Yet, policy officials also indicated that the policies could serve as a source of inspiration for other municipalities to also implement advertisement restrictions: "*Of course, you could ask, "What's the point of us as* [municipality] *restricting it?" Indeed, the impact may be limited, but every drop counts, and we hope this will have a ripple effect [to other municipalities]."* (Interviewee #12.1) Others suggested that the policy may have a signalling effect, as municipalities use the restrictions to make a statement about their stance on the consumption of unhealthy and unsustainable products or services, thereby drawing public attention.

3.3.8. Interrelation between themes

Whereas the identified themes are presented as distinct topics, they are in fact interrelated. For instance, 'momentum' or a policy window is determined by the perceived barriers and risks, current national and local political climate, and expected impact of the policy.

4. Discussion

4.1. Key findings

Directly interviewing Dutch municipal policy officials sheds light on what is generally perceived to be a black box of policy processes. Our study provides a broad understanding of why and how Dutch municipalities are currently (not) engaging in or considering advertisement restrictions for unhealthy and unsustainable products or services in

outdoor public spaces. Although the Dutch context is unique, an increasing number of local authorities in other countries are now also considering or implementing sustainability-related advertisement restrictions (e.g., Edinburgh, Scotland (Robertson et al., 2024)), and several of the identified themes would be relevant for understanding policy making processes in other contexts. Policy officials explained that advertisement restrictions were often initiated to the municipal council by a left-wing council member, who were more likely to vote for passing of this legislation based on a combination of an existing momentum (e.g., commitment of municipalities to contribute to a healthy and green future), a favourable political climate (e.g., local political demand for advertisement restrictions), and an emerged policy window (e.g., revision municipality advertisement policies or health agenda). In contrast, municipalities that opted not to proceed with advertisement restrictions cited a lack of political support, and it was perceived by policy officials this narrative primarily existed in more right-wing leaning councils. For those municipalities aiming to move forward with advertisement restrictions, policy officials suggested that the development, implementation and long-term viability of advertisement restrictions seemed to be shaped by the policy consistency (e.g., establishing definitions of which products to restrict), managing the risks to policy implementation (e.g., financial losses for the municipality of reduced advertisement revenue) and practical barriers (e.g., existing tenders with advertisement operators with a long duration). All these elements also fed into the hypothesized impact of the advertisement restrictions, whereby policy officials explained that the aim was often to reduce the consumption of unhealthy and unsustainable products or services, but that they perceived the actual effectiveness as uncertain. It was also suggested that the primary effect may be a signalling effect, as municipalities use the restrictions to make a statement about their stance on the consumption of unhealthy and unsustainable products or services, thereby drawing public attention.

4.2. Interpretation of findings

The notion that political orientation of the council plays a crucial role in whether or not the municipality initiates or proceeds with advertisement restrictions aligns with broader political trends. Left-leaning political parties are more likely to frame public health and environmental sustainability as collective responsibilities that warrant government intervention, whereas right-leaning parties tend to emphasize individual responsibility and economic freedom, and may therefore be more hesitant to support regulatory measures such as advertisement restrictions. (Rinaldi and Bekker, 2019; Andreas, 2022) These findings align with a scoping review on advertisement restrictions by Chung et al. (2022), suggesting that strong coalitions, effective partnerships, and political leadership are crucial for driving implementation forward. (Chung et al., 2022).

Furthermore, our findings underscore the significance of a momentum and a policy window in shaping municipal decisions on advertisement restrictions, as for instance already engaging in broader health or sustainability agendas seemed to facilitate the process. These observations are reflected in an earlier qualitative study on municipal advertisement restrictions (Scott et al., 2023) and in Kingdon's multiple streams framework, (Kingdon, 2010) which suggests that policies are most likely to be adopted when a problem, a viable policy solution, and political will converge. It also corresponds with recent observations by Sing et al. (2025), whose research on national governments found that regulating unhealthy food advertisements is influenced by the neoliberal ideologies and institutional norms across different political contexts and that effective policy adoption required an exceptional alignment of factors. (Sing et al., 2025).

Policy consistency emerged as a critical factor in developing and implementing advertisement restrictions, highlighting the need to clearly define which products should be restricted. As also mentioned by UK local policy makers, (Meiksin et al., 2022; Hassan et al., 2024) many municipalities faced challenges in establishing definitions of restricted products and navigated this challenge individually. This reinforced the desire for national restrictions to provide clarity and consistency. However, at the national level, the Netherlands currently has a more right-leaning cabinet, which has for instance postponed proposed fossil fuel advertisement restrictions. (Rijksoverheid, , 2024) The regulatory challenge that municipalities only manage a relatively small portion of all outdoor advertisements in public spaces and that advertisement may be moved to other platforms (e.g., online) confirmed findings of an earlier qualitative study on municipal advertisement restrictions. (Scott et al., 2023) Financial concerns were a key barrier, where some policy officials feared reduced municipal revenue following advertisement restrictions, but others disagreed. This finding echoes prior studies on local policy makers' views on food policy implementation, (Scott et al., 2023; Meiksin et al., 2022; Thanekar et al., 2024; Hassan et al., 2024; Allender et al., 2009) showing for instance that there are inconsistent views within a council on the impact on municipal revenue, (Scott et al., 2023) and that economic feasibility is a primary determinant of regulatory decisions. (Allender et al., 2009; Swensen, 2016) Nevertheless, one Dutch municipality in this study boldly implemented restrictions on issue and image building by brands or companies, which reduces industry attempts to evade the advertisement restrictions by simply displaying their logo instead of a specific product.

4.3. Limitations and recommendations for future research

While this study provides valuable insights into the policymaking process regarding advertisement restrictions, several limitations should be acknowledged. First, the qualitative nature of the study means that findings are context-specific and may not be transferable to all Dutch municipalities – especially since we predominantly interviewed larger municipalities who more often have a left-wing leaning council. Although some of the themes we identified corresponded with the findings of similar studies in other countries, (Scott et al., 2023; Meiksin et al., 2022; Thanekar et al., 2024; Hassan et al., 2024; Sing et al., 2023; Bloomfield, 2006; Hiilamo and Glantz, 2017) it would be of interest to compare policy processes related to advertisement restrictions regarding health and sustainability across different geographical contexts. Second, we spoke to a selection of policy officials, namely only those in municipalities who considered implementing restrictions – even though we also approached policy officials who did not currently consider advertisement restrictions. It would be valuable to understand what underlying mechanisms trigger the consideration of advertisement restrictions. This could be facilitated by a nationwide-study among representative municipal stakeholders. Third, given the evolving nature of municipal policies, longitudinal quantitative research could provide further insights into the long-term effectiveness and sustainability of advertisement restrictions. Tracking municipalities that have implemented restrictions over several years across all types of advertisement outlets within a municipality would allow for an assessment of whether these policies lead to measurable impact on consumer behaviours. Lastly, our study focused primarily on policy officials' perspectives, which, while crucial, represent only one type of actor in the policy process. Future studies could incorporate perspectives from other stakeholders, including advertising companies or community members, to gain a more comprehensive understanding of the impact and acceptance of advertisement restrictions.

4.4. Policy implications

Policy officials' reflections on the expected impact of advertisement restrictions sheds light on the potential pathways through which new advertisement regulations may affect the cues consumers encounter. (Forde et al., 2022) The potential limited impact of the municipal advertisement restrictions were attributed to both the limited scope (leaving plenty of advertisement exposure) and limited reach (due to

long-lasting tenders) of the policy, something that was also reported for 'ad-free city' Grenoble in France. (Mahdawi, 2015) Still, hypothesized impacts of the advertisement restrictions were dual in nature. While the direct intended effect of these restrictions was to reduce consumption of unhealthy and unsustainable products, policy officials acknowledged that the actual effectiveness of restrictions in achieving behavioural change remained uncertain. The implementation of further advertisement restrictions coupled with comprehensive evaluations would improve our understanding of when and how such policies take effect. Sometimes even prior to implementation, the announcement of a policy can already initiate effects. For instance, soda purchases dropped immediately after campaign attention for a local excise tax on sugar-sweetened beverages in Berkeley, California. (Taylor et al., 2019; Scarborough et al., 2020).

Furthermore, advertisement restrictions may have indirect effects on behaviour. An analysis of the UK sugar levy suggests that soft drink manufacturers may have reduced sugar levels to avoid the levy following the announcement but before the implementation of the levy – thus indirectly contributing to lower sugar consumption. (Scarborough et al., 2020) Advertisement restrictions may also serve a communicative function on commitment to public health and environmental sustainability beyond their direct regulatory impact. (Chung et al., 2022; Scott et al., 2023; Egan and McGill, 2021) This could be seen as a form of 'reversed marketing', whereby advertisement restrictions reduces positive social norms associated with advertised products by limiting positive product or brand associations. (Fennis and Stroebe, 2020; Hütter and Sweldens, 2018; López-Guimerà et al., 2010; La Ferrara, 2016; Dastidar et al., 2023) This signalling effect may contribute to a 'regime destabilization' or 'rebalancing of power', whereby more space is created for environmental and public health interests relative to commercial interests. (Hassan et al., 2024; McDowall and Underthun, 2025) As such, the effects of advertisement restrictions may extend beyond immediate consumption patterns to shifts in public discourse and broader market structures and dynamics.

Nevertheless, unintended consequences may be that companies attract consumers via alternative advertisements, e.g., brand advertisement only, or alternative marketing tools, such as price promotions. Also, consumers may switch to other unsustainable or unhealthy products, partially offsetting potential benefits. (Dubois et al., 2018; Motta, 2013) From a systems science perspective, these scenarios are reflections of system responses to external interventions: balancing and reinforcing feedback loops help maintain the status quo of the system, even after the implementation of an intervention. For instance, Chile's 2019 daytime TV advertisement ban on sugary beverages, indeed, reduced the number of sugar sweetened beverages advertisements during daytime, but it also lead to increases in the total number of beverage advertisements, in brand advertising and in advertisements on sugar-free and reduced-sugar beverages specifically targeted at children. (Mediano Stoltze et al., 2023) Ensuring that future evaluations of advertisement restrictions is grounded in a systems perspective might allow for the measurement of such reactions to the policies that either undermine or reinforce their effect. Nonetheless, a thorough evaluation of the effects of municipal advertisement restrictions would require greater clarity from municipalities about their stage of policy process, as well as insight into the current prevalence of unhealthy and unsustainable advertisements at various types of advertisement outlets.

The potential for unintended consequences highlights the importance of implementing outdoor advertisement restrictions as part of a broader national environmental and public health strategy. Combining advertisement restrictions with co-interventions such as taxes on unhealthy and unsustainable products and front-of-package warning labels may provide a strong signal to consumers and increase public support for policies addressing unhealthy and unsustainable environments. (Alvarado et al., 2021; Wahnschafft et al., 2024) It may be especially promising to focus on harmful marketing as a whole, because previous studies have shown that the marketing of food, alcohol and gambling tend to cluster around similar locations. (Liu et al., 2022) Other studies suggest that restricting advertisement of (environmentally) harmful products may even stimulate the innovation of sustainable alternatives. (McDowall and Underthun, 2025) Although evaluating the effects of implemented policies is inherently challenging, (Dubois et al., 2018; Motta, 2013) evidence on the (ripple) effects of advertisement restrictions could stimulate other municipalities to implement similar policies, and serve as precedent for national-level regulation.

An additional benefit of a coherent policy package is that it limits commercial pushback, i.e., affected parties exploiting regulatory gaps. (Gilmore et al., 2023) For instance, Sing et al. found that exempting certain products from marketing restrictions is likely to introduce a weak point in the policy that may be exploited. (Sing et al., 2023) An example of such a loophole is the Dutch consumer tax on non-alcoholic beverages, which exempts dairy beverages. As a response, certain fruit juice manufacturers now include small amounts of dairy to their products to avoid the tax. (van der Hoek, 2024) But even without formal exemptions, defining which products are covered by a policy is challenging. (Meiksin et al., 2022; Whitton et al., 2025) Anticipating creative advertisement designs, and in line with the WHO recommendations and a recent study, (World Health Organization, 2023; Northcott et al., 2025) one municipality in this study decided to broaden the advertisement restrictions to 'brand marketing' rather than 'product marketing' only.

4.5. Conclusions

Our results highlight the perceived interplay of political, financial, and practical considerations that influence municipal advertisement restrictions in the Dutch context. Political climate, policy consistency, financial feasibility, and contractual obligations present key challenges in development and implementation, while the signalling effect of advertisement restrictions appears to be significant, even when their direct effectiveness on consumer behaviours is perceived uncertain. Understanding these underlying mechanisms is essential for policy officials seeking to navigate the challenges of implementing advertisement restrictions to promote public health and sustainability in both local and national food governance. Future research should further explore broader stakeholder perspectives and long-term impacts to provide a more comprehensive evaluation of advertisement restrictions in outdoor public spaces.

5. Availability of data and materials

The qualitative data analysed during the current study are not publicly available as this would violate participant consent. The full codebook can be obtained from the corresponding author upon written request.

CRediT authorship contribution statement

J.M. Stuber: Writing – review & editing, Writing – original draft, Project administration, Formal analysis, Data curation, Conceptualization. **D. Beeres:** Writing – review & editing, Writing – original draft, Formal analysis, Data curation. **S.C. Dijkstra:** Writing – review & editing, Funding acquisition, Conceptualization. **S.K. Djojosoeparto:** Writing – review & editing. **H. Forde:** Writing – review & editing. **M.P. Poelman:** Writing – review & editing. **F.J. van Lenthe:** Writing - review & editing, Conceptualization. **J.D. Mackenbach:** Writing – review & editing, Supervision, Funding acquisition, Formal analysis, Data curation, Conceptualization.

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