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Systematic Review

Ten Years of Insights on Monitoring the Corporate Political Activity of the Food and Beverage Industry: A Snowballing-Based Literature Review

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Abstract

Background: The commercial practices of the food and beverage industry contribute to ill-health. The industry actively opposes efforts to address this threat to public health through "corporate political activity" (CPA). In 2015, a tool for monitoring CPA through publicly available information was published, and has since then been applied in various countries. This study explores (1) what CPA have been identified, for which contexts and corporate actors, by this tool, and (2) what challenges were encountered for using the tool and how these were addressed.

Methods: A snowballing-based systematic literature review was performed on articles applying the tool to monitor food or beverage industry CPA. The results and discussion sections of included articles were coded qualitatively. Furthermore, original data on specific corporate actors were retrieved from included articles and qualitatively coded.

Results: Twenty articles were included, primarily covering Latin America (n = 11) and the processed foods industry (n = 13), including baby foods and sugar-sweetened drinks. The main challenges for the tool were (1) its labour-intensiveness in time and resources, and (2) the limitations and biases of publicly available information. The most widespread CPA were: spreading favourable evidence (n = 20), accessing policy-making (n = 19), and securing support beyond business (n = 19). Rarest were framing the (actions of) the industry as "legal," dismissing health harms (n = 1), managing policy venues (n = 0), and coordinating industry strategies (n = 0).

Conclusion: We provide an overview of the reported CPA across the included articles and zoom in on specific corporate actors and actor groups. We provide recommendations on how to strengthen the tool. These include using supplemental interviews to address the limitations of publicly available information and leveraging citizen science and technological solutions to enhance the efficiency of data gathering or analysis, although this carries feasibility, ethics, and bias risks.

Keywords: Food Industry, Industry Influence, Lobbying, Public Policy, Health Policy

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Introduction

The commercial practices of food and (alcoholic and non-alcoholic) beverage industries (henceforward "food industry") are important determinants of public health.[1] Their production, sales, and promotion of unhealthy products directly promote unhealthy diets,[2,3] contributing to the current prevalence of non-communicable diseases.[4,5] They also use political practices to oppose and counteract policies that would threaten their interests.[1,6] These "political practices" present a major barrier to realising impactful public health policies that could address the aforementioned promotion of unhealthy diets.[7]

Within the commercial determinants of health, political practices are often conceptualised as "corporate political activity" (CPA),[1,7,8] using the definition of *"practices to secure preferential treatment and/or prevent, shape, circumvent or undermine public policies in ways that further corporate interests."*[1,8] Evidence indicates that CPA fluctuates across time and space, depending on factors such as legal, political, or social circumstances.[7-9] For this reason, it is vital that CPA is also monitored across space and time. This allows public health proponents to understand and anticipate what CPA strategies are likely to be used in a specific context, and enables the formulation of appropriate counteractions.[10]

In 2015, INFORMAS (International Network for Food and Obesity/non-communicable diseases Research, Monitoring and Action Support) published a tool for systematically monitoring food industry CPA, using publicly available information.[11,12] The tool has seen use in various studies, illustrated by its 362 citations on Google Scholar. In doing so, the tool has been invaluable in expanding the evidence base on CPA in a variety of contexts.

However, the findings of these studies are currently scattered, making it difficult to draw broader comparisons or evaluate the evidence base. Several studies also indicated limitations of the tool, such as the recommended sources not covering all CPA strategies equally.[13-15] By reviewing those studies that applied the tool, we could gain insight into the

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evidence gathered by the tool, drawn comparisons between studies, and evaluate the tool itself. This knowledge would enhance our understanding and monitoring of political activities within the commercial determinants of health, to the benefit of public health.

Therefore, this study reviews those studies that applied the INFORMAS tool, to evaluate its practical feasibility, formulate improvements, and aggregate the evidence on CPA gathered over the past decade. Our research question is: "*What CPA strategies have been identified, for which contexts and corporate actors, by the INFORMAS tool, and what challenges were encountered in these applications of the tool and how were these addressed?*"

Methods

A systematic literature review was conducted, using forward and backward snowballing,[16] following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines.[17] The review and protocol were not registered beforehand.

Context: The INFORMAS Tool

The "INFORMAS tool" refers to the approach for carrying out a CPA monitoring project, as described by Mialon et al.[11] This approach is divided into five phases.

Phase 1 covers the selection of organisations of interest and recommendations for selection metrics (eg, market data) and groups to focus on (eg, largest companies, national trade associations). *Phase 2* covers the publicly available information sources to analyse. The tool recommends the use of, at least, industry-owned materials, and ideally materials from government, universities, and professional bodies. *Phase 3* covers the collection of data from these sources. *Phase 4* covers the thematic qualitative analysis of this data. *Phase 5* covers the reporting of the monitoring results.

Theoretical Framework

The INFORMAS tool was published alongside a framework for categorising CPA, but more comprehensive frameworks have been published since. We used Ulucanlar and colleagues'[8] recent and comprehensive taxonomy of CPA for our analysis. It divides CPA practices into two groups: *action strategies* and *framing strategies*.

Action strategies concern the actions of corporate actors to (in)directly oppose, shape, or influence public health policies. The categories are: access and influence policy-making; use the law to obstruct policies; manufacture public support for corporate positions; shape evidence to manufacture doubt; displace and usurp public health; and manage reputations to corporate advantage.[8] Each category encompasses multiple mechanisms through which the described action is performed (Supplementary file 1).

Framing strategies concern the discursive frames regarding public health problems, solutions, and relevant actor groups, used by corporate actors. The categories are: the good actor; the bad actors; the trivial and individual problem; the acceptable, good solution; the unacceptable bad solution.[8] Each strategy encompasses several claims that support that frame (Supplementary file 1).

Literature Selection

Search Strategy

Literature was collected through forward and backward snowballing.[16] This was based on the assumption that articles that applied the tool would either directly reference the original paper, or another paper that applied it, per scientific reporting practices. The process started with forward snowballing. The first round retrieved all forward citations of the original publication by Mialon et al,[11] and subsequent rounds retrieved the forward citations of included articles from the previous round, concluding when there were no new inclusions. Forward citations were gathered through Web of Science (June-September, 2024), and Google Scholar (June-September, 2024) and compiled in Excel. Next, backward snowballing was conducted (April 2026). In this case, the reference lists of included articles were exported and compiled into a combined Excel file.

Article Selection

Article selection was conducted between July 2024 and January 2025 (forward snowballing), and April, 2026 (backward snowballing) in three steps: (*i*) deduplication, (*ii*) title and abstract screening, and (*iii*) full-text screening. This process was performed in duplicate, compared after full-text screening. CNHM and LL performed the forward snowballing (90.5% agreement), and CNHM and JDM performed the backward snowballing (100% agreement). Differences were discussed to reach consensus. In cases of doubt, MM was asked for advice. Because MM authored several articles applying the INFORMAS tool she was not involved directly in the screening procedures, to limit potential bias. CNHM made the final decision on inclusions. Differences mainly concerned different interpretations of what constituted "using the tool." Non-English articles were translated using Google Translate.

Selection Criteria

Inclusion criteria were as follows:

1. Articles are published in a peer-reviewed academic journal. This ensured that all included articles reported both their methods and findings at a comparably high level of quality and detail, which was deemed necessary for comparing and integrating their findings.
2. Articles describe an empirical study (eg, no literature review or conceptual papers) of CPA by the food, non-alcoholic beverages, or alcoholic beverages industries (including subsectors, eg, dairy, meat, infant nutrition), in relation to public health.
3. Articles present a full-length description of said study (eg, no conference abstracts), containing an introduction, methods, results, and discussion (or equivalent).
4. Articles apply the methodology prescribed by the INFORMAS tool (as defined above).[11] A reference to the original article or another article using and referencing the tool, was required.

Data Extraction

CNHM and LL extracted the data from the included articles in duplicate, including publication title, authors, date of publication, context of the study (country, sector, corporate actors monitored), data collection strategies used to supplement the tool, and data sources examined. Extracted data was validated between the authors. Article sections containing information on CPA and the application of the tool were marked during extraction. CNHM appraised the study quality, using the QualSyst tool for systematic reviews, which scores quality on a 0-1 scale.[18]

Data Analysis

Data analysis was conducted in MAXQDA. Two analyses were conducted, corresponding to the two parts of the research question.

The Tool

This part of the analysis focussed on the practical challenges and adaptations of the INFORMAS tool, using inductive coding. Passages describing practical challenges and adaptations were labelled with descriptive codes that were reused when appropriate. From these codes, a summary was drafted of the themes observed within the data.

Observed Corporate Political Activity

To gain insight into the CPA strategies observed by each study, deductive coding was used, based on Ulucanlar et al's taxonomy.[8] The individual action and framing strategies were used as the lowest-level codes (Supplementary file 1). Whenever multiple strategies would fit a datapoint, all applicable codes would be used.

Aggregated Corporate Political Activity Analysis

First, an aggregated analysis was performed, based on the results sections of the included articles. These sections were read line-by-line for each article, and passages describing the CPA observed by the study were labelled with the appropriate code(s) by CNHM. The coding was subsequently critically reviewed by MM and LL, who received files containing 10% of the coded passages, and evaluated their agreement with the attributed codes (MM: 89.7%; LL: 97.25% agreement). Disagreements were discussed with CNHM, who adjusted the coding accordingly. The final coding (Supplementary file 2) was used to draft an overview of the CPA (sub)strategies reported per article and (multi)national context.

Actor-Specific Corporate Political Activity Analysis

Next, exploratory actor-specific analyses was performed of the most prominent examples of different actor groups. These focussed on trade associations, the two most monitored corporations (Nestlé and Coca-Cola), and the frequently monitored "industry front group" ILSI (International Life Sciences Institute). These choices were based on the prevalence of these actors in the dataset. In this review, we considered ILSI's regional divisions (eg, ILSI Brazil) to be representative of the global organisation. Some of these divisions have recently rebranded: ILSI's research foundation became the Agriculture & Food Systems Institute, and ILSI North America became the Institute for the Advancement of Food and Nutrition Sciences.[19,20]

For the trade associations, we exported all passages coded in the aggregated CPA analysis from MAXQDA to Excel. Using the data-filter function, we identified passages concerning specific trade associations (names taken from the data extraction table) or the general terms "trade organisation/association." These segments were sorted per article, and the coded CPA strategies were recorded in an overview per article and context.

For Nestlé, Coca-Cola, and ILSI, we collected the original datasets (quotations taken from publicly available sources) of each article that monitored them. These were usually available as supplementary files from the reviewed articles. Articles that did not publish their original dataset were excluded. This limited the evidence base of this analysis, but was considered an acceptable trade-off against the increased rigour of analysing original data.

Datapoints related to the examined actors, and the codes assigned by the original authors, were collected in an Excel file, sorted per article and actor. These datapoints were deductively coded by CNHM, using Ulucanlar et al's taxonomy.[8] The new and original codes were compared as a validation measure. In case of substantial differences, the coding was critically revised by CNHM. Although less rigorous than double coding, this was considered an acceptable time-saving strategy. The final coding per actor is given in Supplementary file 2. From this coding, overviews were drafted of the CPA strategies used by each actor, per article and context.

Amendments

Three adjustments to the original study plan were made during the study process: (1) Inclusion of the alcohol industry, based on the assumption that alcoholic and non-alcoholic beverage companies have similar interests, arguments, and tactics, and the fact that several studies monitoring the alcohol industry came up during exploratory searches; (2) The analysis of specific actors, because the raw data allowed for such analyses; (3) The addition of backward snowballing, to increase methodological rigour.

Positionality

CNHM and JDM are senior researchers with backgrounds in food systems and their influence on public health. They had no previous experience with CPA, but did have expertise on the influence of corporate interests on public health. LL is a student in the field of prevention and health education, with no prior experience with CPA. MM is a senior researcher with a background in the commercial determinants of health. She is one of the authors of the INFORMAS tool and (co-)authored numerous articles that applied it. Her experience with the tool and CPA monitoring facilitated in-depth understanding of the broader literature on CPA, the INFORMAS tool, and points of interest for the review. MM's feedback on the inclusion criteria narrowed the scope of included studies to those closely matching the tool (see above), strengthening the specificity of the study design. She also introduced the idea

of actor-specific analyses, which CM developed further. To limit bias from MM, the literature search, screening, and data extraction and analysis were primarily conducted by CNHM, JDM, and LL. MM provided post-hoc advice on the literature selection and evaluated the coding. This led to the exclusion of two studies that bore methodological similarities to the tool but did not reference it, and minor adjustments to the coding. CM interpreted the results and wrote the discussion. The other authors (including MM) provided input afterwards, which did not result in major deviations. As the initial designer, most prominent user, and now evaluator of the tool, MM brought her experiences and predispositions regarding the tool and CPA monitoring into the team. Initially, this may have biased the team's perception of the tool. However, this was mitigated by using objective empirical data on how studies reported on their use of the tool as the basis of the evaluation, and including the measures above to maintain some distance between MM and the evaluation process.

Results

Search Output

We conducted two rounds of forward snowballing. The first, starting from the original publication of the INFORMAS tool, yielded 273 unique articles. After title and abstract screening, 43 articles were retained, and after full-text screening 20 articles were included. Of these, 18 had forward citations, which were used for the second round. This yielded 369 new unique articles. After full-text screening 0 new articles were included. Backwards snowballing yielded 540 new articles, of which 0 were included. The final sample included 20 articles (Supplementary file 3). The selection process is shown in Figure 1. Articles excluded for being "not relevant" were not an empirical study on CPA (eg, theoretical papers, commentaries), not covering food industry CPA in relation to public health (eg, environmental impact), or not using the INFORMAS tool.

Descriptives

Table 1 provides an overview of the descriptive characteristics of the included articles. The included articles covered studies in a range of (multi)national contexts: Australia (n = 1), Chile (n = 1), Fiji (n = 1), Guatemala & Panama (n = 1), Latin America & the Caribbean (n = 1), Mexico (n = 1), Portugal (n = 1), South Africa (n = 1), USA (n = 1), Colombia (n = 2), Thailand (n = 2), France (n = 3), and Brazil (n = 4). Most studies were conducted in Latin America (n = 11) and Europe (n = 4). The articles covered the following industries: (general) processed food (n = 13), baby food (n = 4), processed dairy (n = 1), sweetened beverages (n = 4), and alcohol (n = 1). Article quality scores ranged from 0.75 to 1.00, with an average of 0.88.

Monitored Corporate Actors

The included articles monitored actors representing food processing, retail, fast food, trade associations, chambers of commerce, distributors, suppliers, and industry-funded institutes (Supplementary file 3), and ranged from 2 to 20 per article. Most articles also investigated governmental, professional, academic, and/or other public bodies and institutions for links to the aforementioned corporate actors. The most commonly (n > 5) monitored corporate actors were: Nestlé (n = 15), Coca-Cola (n = 13), Danone (n = 10),

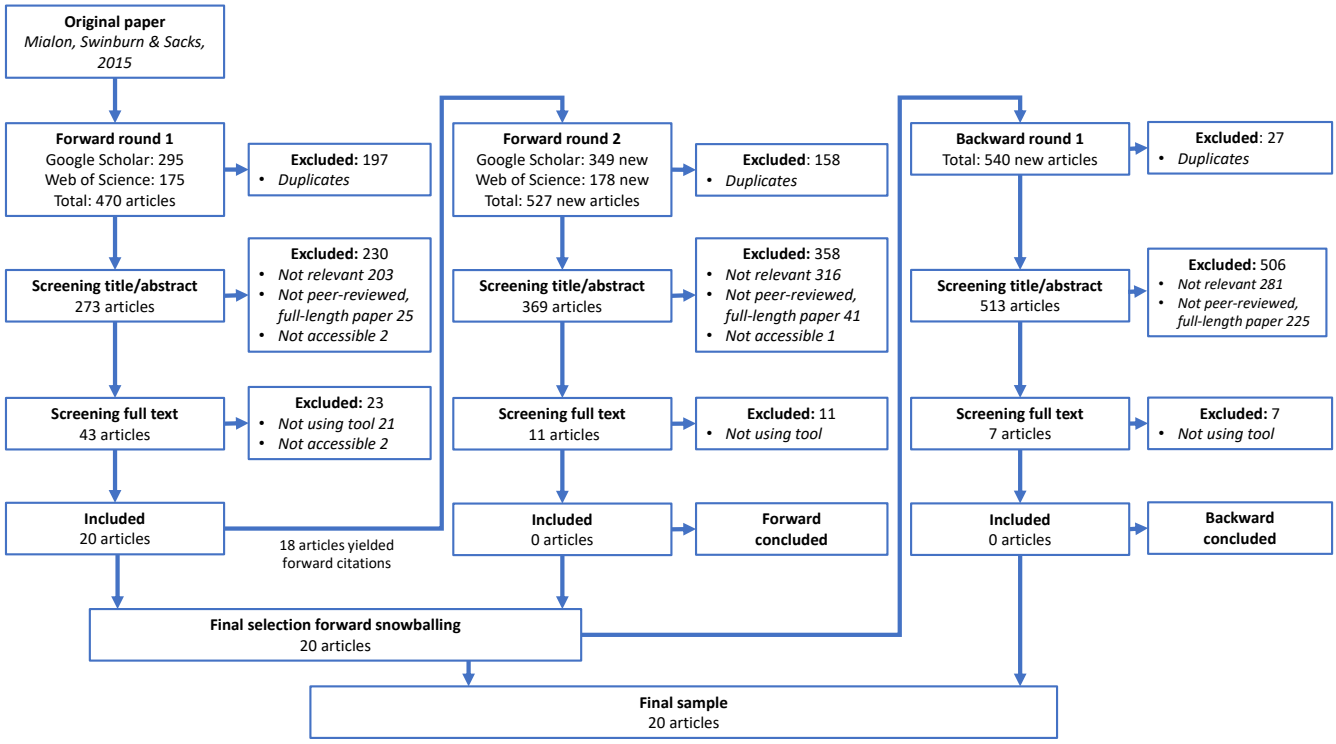

Figure 1. Flowchart of the Article Selection Process.

Table 1. Key Characteristics of the Included Articles[a]

Reference	Title	Context	Industry	QS
Mialon et al (2016)[21]	Systematic examination of publicly available information reveals the diverse and extensive corporate political activity of the food industry in Australia	Australia	Food	0.90
Mialon et al (2016)[13]	Analysis of the corporate political activity of major food industry actors in Fiji	Fiji	Processed food	0.75
Mialon and Mialon (2017)[22]	Corporate political activity of the dairy industry in France: an analysis of publicly available information	France	(Processed) dairy	0.95
Jaichuen et al (2018)[23]	Corporate political activity of major food companies in Thailand: an assessment and policy recommendations	Thailand	Processed food	1.00
Mialon and Mialon (2018)[24]	Analysis of corporate political activity strategies of the food industry: evidence from France	France	Processed food	0.90
Mialon and Gomes (2019)[25]	Public health and the ultra-processed food and drink products industry: corporate political activity of major transnationals in Latin America and the Caribbean	Latin America & Caribbean: Argentina; Barbados; Brazil; Chile; Colombia; Costa Rica; Ecuador; El Salvador; Guatemala; Jamaica; Mexico; Panama; Peru; Trinidad; Uruguay	Processed food; sweetened beverages	0.85
Paixao and Mialon (2019)[26]	Help or hindrance? The alcohol industry and alcohol control in Portugal	Portugal	Alcohol	1.00
Mialon et al (2020)[14]	The architecture of the state was transformed in favour of the interests of companies: corporate political activity of the food industry in Colombia	Colombia	Processed food	0.80
Mialon et al (2020)[27]	'I had never seen so many lobbyists': food industry political practices during the development of a new nutrition front-of-pack labelling system in Colombia	Colombia	Processed food	0.90
Mialon et al (2020)[28]	Food industry political practices in Chile: the economy has always been the main concern	Chile	Processed food	0.90
Mialon et al (2020)[29]	Mapping of food industry strategies to influence public health policy, research and practice in South Africa	South Africa	Processed food; sweetened beverages	0.85
Mialon et al (2020)[30]	Arguments used by trade associations during the early development of a new front-of-pack nutrition labelling system in Brazil	Brazil	Processed food	0.90
Mialon and Pinsky (2020)[31]	Food industry responding to the COVID-19 pandemic in Brazil: public health or public relations?	Brazil	Processed food	0.90
Ojeda et al (2020)[32]	The influence of the sugar-sweetened beverage industry on public policies in Mexico	Mexico	Sweetened beverages	0.80
Tanrikulu et al (2020)[33]	Corporate political activity of the baby food industry: the example of Nestlé in the United States of America	USA	Baby food	0.90
Cetthakrikul et al (2021)[15]	Corporate political activity of baby food companies in Thailand	Thailand	Baby food	0.95
Cossez et al (2021)[34]	'The second mother': How the baby food industry captures science, health professions and civil society in France	France	Baby food	0.75
Mialon et al (2021)[35]	"A consistent stakeholder management process can guarantee the 'social license to operate'": mapping the political strategies of the food industry in Brazil	Brazil	Processed food; sweetened beverages	0.75
Kroker-Lobos et al (2022)[36]	Two countries, similar practices: the political practices of the food industry influencing the adoption of key public health nutrition policies in Guatemala and Panama	Guatemala; Panama	Processed food	0.90
Robles et al (2024)[37]	Breastfeeding, first-food systems and corporate power: a case study on the market and political practices of the transnational baby food industry in Brazil	Brazil	Baby food	0.80

Abbreviation: QS, QualSyst.

[a] The table presents the authors, publication date, title, study context (country, sector, and corporate actors examined), and article quality score based on the QualSyst tool (range 0.00–1.00).

McDonald's (n = 9), PepsiCo (n = 8), Mars (n = 7), Unilever (n = 7), General Mills (n = 6), and Kellogg's (n = 6). Industry front group ILSI[38] was also commonly examined (n = 7). Most articles (n = 13) also monitored regional and/or national trade associations (Supplementary file 3).

Data sources

The sources examined varied between articles (Supplementary file 3). All articles examined the prescribed "minimal step" of *(country-specific) websites, social media accounts, and public documents of selected corporate actors* (n = 20).[11] Articles mainly monitored Twitter (now "X") (n = 14), with Facebook (n = 6) and LinkedIn (n = 1) being included sporadically. Other common sources were *websites of relevant governing bodies* (n = 16), *websites of national legislative bodies* (n = 10), *websites of universities with relevant department/school* (n = 13), *websites of professional/civil society/public health bodies* (n = 14), and *news and media releases* (n = 18). Less used were *national register of lobbyists* (n = 8), *websites of major political parties and elections commissions* (n = 8), and *websites of relevant conferences and organisers* (n = 8). Least used were *selected commercial actors consultations to/interactions with government* (n = 2), *websites of relevant actors in the wider industry* (n = 2), and *academic releases* (n = 2). The time-periods covered by the articles varied between <1 year (n = 7), 1-2 years (n = 5), 2-5 years (n = 6), and 10+ years (n = 2) (Supplementary file 3).

Limitations and Adaptations of the Tool

In the following section, "n" refers to the number of articles where a finding appeared.

The articles discussed various practical challenges for the INFORMAS tool, and recommended several adaptations (Supplementary file 4). Most broadly mentioned was that *certain CPA were unlikely to be recorded in publicly available information* (n = 14), for example those involving private meetings, financial incentives, or intimidation.

Numerous articles had to *restrict themselves to a limited set of actors and/or cases* (n = 12), *limited timeframe* (n = 11), *or limited range of sources* (n = 8) when applying the tool, often blaming limited resources or time (n = 7). The articles considered this a bias risk, speculating that certain CPA strategies may be most visible during specific events (eg, elections), among specific actors, or through specific sources.

Finally, several articles reported *limitations in the availability and comprehensiveness of useful publicly available information* (n = 9). This meant that the sources recommended by the tool did not exist, covered a limited time period (eg, a localized website or social media presence), or provided limited information (eg, limited governmental transparency repositories). One article reported that government officials actively refused to release requested information, due to it being "commercially sensitive" (n = 1).

To address these challenges, researchers proposed or implemented several adaptations to the tool. Articles recommended to include a *broader range of sources* (n = 3), such as websites of indirectly involved governmental bodies (eg, agriculture, finance), crowdsourcing, whistleblower forums, and TV commercials/communications, or to *broaden the range of actors* (n = 3) to improve the robustness of findings. Several articles proposed to *monitor a broader timeframe* (n = 7) instead of limited snapshots. One article utilised a preliminary search of key historical and contextual events to supplement and inform their monitoring (n = 1).

Numerous articles recommended *interviews to triangulate and supplement publicly available information*, and gain insight into CPA strategies that were less likely to be covered by publicly available sources (n = 11). Several articles already applied this approach (n = 7). These primarily interviewed public health (ex-)policy-makers and policy officials, public health professionals and advocates (eg, NGOs, civil society), journalists, and academics. Some articles approached corporate representatives (n = 3), who refrained from participating in two cases.

Despite their popularity as a supplementary method, interviews had their own challenges: Multiple articles using interviews reported *difficulties in accessing specific actors for interviews* (n = 6). This applied to corporate actors, government officials, academics, professional organizations, and journalists, with the reported reasons ranging from low response rates to safety and independence concerns. Another issue was *interviewees possibly being biased, or reluctant to share certain information* (n = 5), because samples were often homogeneous (due to difficulties accessing certain groups), recollection errors posed bias risks, and interviewees were oftentimes reluctant to discuss sensitive or incriminating information (eg, bribes, intimidation).

Observed Corporate Political Activity Strategies

The following sections will discuss the CPA strategies observed across the included articles. The "n" value always refers to the number of articles in which a CPA was reported. Furthermore, "n" is not given in cases where n = 0.

Corporate Political Activity Practices Per Article and Context

Table 2 summarizes the CPA strategies identified per article and context. First we discuss the reported action strategies. The "access and influence policy-making" strategy was present in every article. This was primarily through the subcategories *access policy-makers and spaces* (n = 19) and *influence policy processes and outcomes* (n = 18), which were observed in every context.

The "use the law to obstruct policies" strategy was notably the only action strategy not reported in every context, only appearing in the Global South. In most of these articles it appeared as attempts to *use legal challenges to policy (pre and post adoption)* (n = 5). Efforts to *use law to undermine policy-making/public health community* (n = 3) were only reported in Fiji, Colombia, and Brazil.

The "manufacture public support for corporate positions" strategy was reported in all contexts. Most widespread was the *secure support beyond business* (n = 19) strategy, by making allies out of trusted organisations (eg, charities) and opinion leaders (eg, celebrities) via collaborations or donations. Almost as widespread were efforts to *operate through third parties* (n = 18), to spread messages or influence

Table 2. The Observed Corporate Political Activities, Per Context and Article

			Context and Article Reference																			
			Australia	Fiji		France		Thailand		Latin America & Caribbean	Portugal	Colombia		Chile	South Africa		Brazil			Mexico	USA	Guatemala & Panama
CPA Strategy		**CPA Subcategory**	21	13	22	24	34	23	15	25	26	14	27	28	29	30	31	35	37	32	33	36
Action Strategies	Access and influence policy-making	Access policy-makers and spaces	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x
		Influence policy processes and outcomes	x	x		x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x
		Manage policy venues																				
	Use the law to obstruct policies	Use law to undermine policy-making/public health community		x								x						x				
		Use legal challenges to policy (pre and post adoption)						x		x			x	x				x				
	Manufacture public support for corporate positions	Coordinate and manage industry strategies																				
		Fabricate allies					x	x				x	x	x			x	x	x	x		
		Form business alliances					x					x					x		x	x	x	x
		Maximise corporate-favourable media content		x				x	x		x	x						x		x	x	x
		Operate through third parties	x		x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x
		Secure support beyond business	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x
	Shape evidence to manufacture doubt	Amplify and blend corporate favourable evidence into public record	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		Produce or sponsor favourable research/information	x		x	x	x	x	x		x	x		x	x	x	x	x	x	x	x	x
		Undermine and marginalise unfavourable research/ information		x	x					x	x			x	x	x	x	x		x		x
	Displace and usurp public health	Deliver education and training to public health professionals			x	x	x	x				x	x	x	x				x		x	
		Deliver individual-level interventions	x	x	x	x	x	x	x	x	x	x		x	x		x	x		x	x	x
		Promote “harm reduction” as public health goal	x	x		x		x		x		x		x	x	x		x		x		
		Undermine the rationale for statutory policies on corporate practice	x	x	x	x		x		x	x	x	x		x	x		x		x		x
		Weaken the public health community				x				x		x						x		x		x
	Manage reputations to corporate advantage	Discredit public health community		x										x		x						x
		Repair and nurture corporate reputations	x	x	x	x	x	x	x	x	x	x		x	x		x	x		x	x	x

Table 2. Continued

			Context and Article Reference																				
			Australia	Fiji		France		Thailand		Latin America & Caribbean	Portugal	Colombia		Chile	South Africa		Brazil			Mexico	USA	Guatemala & Panama
CPA Strategy		**CPA Subcategory**	21	13	22	24	34	23	15	25	26	14	27	28	29	30	31	35	37	32	33	36
Framing Strategies	Good actor corporations	Businesses are legal entities						x														
		Industry is champion of public health	x			x	x	x	x		x	x	x	x	x		x	x		x	x	
		Industry is key economic actor	x	x	x	x		x	x	x		x		x	x	x		x		x	x	
		Industry is legitimate policy actor	x	x			x			x			x		x	x	x	x				x
		Industry is legitimate scientific actor	x				x		x												x	
		Industry is part of the social fabric				x					x											
		Industry is socially responsible	x	x		x		x	x	x		x		x	x	x	x	x		x	x	
		Industry is victim											x									x
	Bad actor proponents of population-scale action	Intervening policy-makers have questionable skills and motives				x																x
		Public health community have questionable skills and motives									x					x						
	Trivial individual problem	Health harms are not caused by Industry's products/ services	x	x	x	x		x	x	x	x			x		x		x		x	x	x
		Health harms are exaggerated																				x
		Health harms arise from atypical (minority) consumption	x	x				x			x		x		x	x						
	Acceptable good solution	Solutions should be self-regulatory & not disrupt business	x	x		x		x			x	x	x		x	x		x				x
		Solutions should target individuals, not whole populations	x	x		x		x			x	x	x	x	x	x		x		x		x
	Unacceptable bad solution	Policies are unnecessary and unacceptable	x					x			x		x			x		x		x		x
		Policies will lead to losses for businesses, economy, and society	x	x		x		x				x	x	x	x	x		x		x		x
		Policies/policy formulation contravene norms, rules, and laws											x	x		x				x		x
		Policy will fail & have perverse consequences									x		x	x	x	x				x		x

Abbreviation: CPA, corporate political activity.

[a] The number under each context refers to the general reference list of this paper.

policy through these newly secured allies. Directed efforts to *maximise corporate-favourable media content* (n = 9), *fabricate allies* (n = 9), and *form business alliances* (n = 7) were reported across a variety of contexts.

The strategy to "shape evidence to manufacture doubt" was reported in all contexts, most widespread in the shape of efforts to a*mplify and blend corporate favourable evidence into public record* (n = 20), and *produce or sponsor favourable research/ information* (n = 17), by sponsoring and conducting research and spreading (mis)information. Efforts to *undermine and marginalise unfavourable research/information* (n = 11) were observed in a smaller, but still varied set of contexts.

The strategy to "displace and usurp public health" was reported across all contexts, most widespread being efforts to *deliver individual-level interventions* (n = 17), followed by attempts to *undermine the rationale for statutory policies on corporate practice* (n = 14). Fewer contexts reported efforts to *promote "harm reduction" as public health goal* (n = 11), and *deliver education and training to public health professionals* (n = 10). The *Weaken the public health community* (n = 6) strategy was mostly limited to France and Latin America.

The final action strategy, to "manage reputations to corporate advantage" was reported in all contexts. Most widespread were efforts to *repair and nurture corporate reputations* (n = 17), such as societal outreach and charity work. Efforts to *discredit public health community* (n = 4), were confined to the Global South.

Out of the framing strategies, the "good actor corporations" frame, portraying corporations in a positive light, was reported in every context. Most widespread were the *Industry is socially responsible* (n = 14), *Industry is a champion of public health* (n = 14) and *Industry is a key economic actor* (n = 14) frames. Less widespread was the *Industry is a legitimate policy actor* (n = 10) frame. The *Industry is a legitimate scientific actor* (n = 4), *Industry is a victim* (n = 2), *Industry is part of the social fabric* (n = 2), and *Businesses are legal entities* (n = 1) frames were reported in a small number of contexts.

The "bad actor proponents of population-scale action" frame, aimed at the corporate actors opponents, was only reported in Brazil, Guatemala & Panama, France and Portugal. Its subcategories, *public health community have questionable skills and motives* (n = 2) and *intervening policy-makers have questionable skills and motives* (n = 2), were each reported in only two contexts.

Framing public health issues as a "trivial individual problem" was reported in almost all contexts (excluding Colombia and South Africa). The most widespread subcategories were *health harms are not caused by industry's products/services* (n = 14) and *health harms arise from atypical (minority) consumptions* (n = 7). The *health harms are exaggerated* (n = 1) frame was only reported in one context.

The "acceptable good solution" frame was reported in the majority of contexts. It was most widespread as the frame that *solutions should target individuals, not whole populations* (n = 13). The *solutions should be self-regulatory & not disrupt business* frame was less widespread (n = 11).

The "unacceptable bad solution" frame was usually reported in the same contexts as its counterpart. Most widespread was the frame that *policies will lead to losses for businesses, economy & society* (n = 12). Less so were the frames that *policies are unnecessary & unacceptable* (n = 8), or that *policy will fail & have perverse consequences* (n = 7). The *policies/policy formulation contravene norms, rules & laws* frame (n = 5) was only reported in the Global South.

CPA Across Corporate Actor Groups

Coca-Cola, Nestlé, and ILSI

Table 3 summarizes the CPA strategies identified for Coca-Cola, Nestlé, and ILSI. Interpretation of these results should be done with caution, due to the limited availability of original data. These actors were monitored in 13 (Coca-Cola), 15 (Nestlé), and 7 (ILSI) articles respectively. The data was predominantly drawn from national/local-level sources (governmental information, corporate websites and social media accounts) (ILSI's social media were only examined for Colombia and Brazil). One notable exception was the use of a global Nestlé website and report in Thailand. A few studies included websites covering relevant broader regions (eg, a francophone website included to study France), in addition to national sources. There was overlap in sources between articles covering the same country (as would be expected), but otherwise not. Four articles provided limited data (<20 quotations) for one or more of the examined actors.[23,29,31,36] Two further articles, covering Nestlé, did not provide their raw data and were therefore excluded.[15,37] To avoid repetition, we will focus on findings that deviate from the aggregated analysis presented above.

Regarding action strategies, the strategies identified for Coca-Cola and Nestlé were mostly in line with the aggregated findings. For ILSI a more limited set of strategies was identified.

Coca-Cola and Nestlé were observed to "access and influence policy-making" in a higher proportion of examined contexts than ILSI. Notably, for all three actors *influencing policy processes and outcomes* ($n^{Nestlé} = 3$; $n^{Coca\text{-}Cola} = 5$; $n^{ILSI} = 1$) was identified in a lower proportion of examined contexts than in the aggregated analysis. Furthermore, "using the law to obstruct policies" was only observed for one actor, in one context ($n^{Nestlé} = 1$).

"Manufacturing public support for the corporate position" was observed in various contexts, for all three actors, conform the aggregated analysis. Coca-Cola was observed *forming business alliances* ($n^{Nestlé} = 4$; $n^{Coca\text{-}Cola} = 7$; $n^{ILSI} = 4$) in the largest proportion of examined contexts, for example via trade associations. Nestlé was observed to *operate through third parties* (eg, scientists) ($n^{Nestlé} = 7$; $n^{Coca\text{-}Cola} = 2$; $n^{ILSI} = 3$) and *fabricate allies* ($n^{Nestlé} = 4$; $n^{Coca\text{-}Cola} = 1$; $n^{ILSI} = 3$) in a relatively high proportion of examined contexts. Notably, when the *fabricate allies* strategy was identified in relation to ILSI, this was usually due to ILSI itself being characterised as such. Another notable observation was that ILSI's identified examples of manufacturing mainly focussed on academic figures and spaces (eg, universities). Finally, ILSI was never observed to *maximize positive media content* ($n^{Nestlé} = 2$; $n^{Coca\text{-}Cola} = 3$).

Conform the aggregated analysis, all actors were observed

Table 3. The Observed Corporate Political Activities of Coca-Cola, Nestlé, and ILSI[a]

			Context & Article Reference														
			Australia	Fiji	Thailand	France	Latin America & Caribbean	Colombia	Chile	South Africa	Brazil		Mexico	USA	Guatemala & Panama		
CPA Strategy		**CPA Subcategory**	21	13	23	24	34	25	14	27	28	29	31	35	32	33	36
Action Strategies	P Access and influence policy-making	P1 Access policy-makers and spaces	C,N	C	N	C,N	N	C,N	C	C	C	N	N	C,I	C	N	
		P2 Influence policy processes and outcomes	N					C	C	C	C,N			C,I		N	
	L Use the law to obstruct policies	L2 Use legal challenges to policy (pre and post adoption)	N														
	S Manufacture public support for corporate positions	S2 Fabricate allies	N						N,I	N,I		I		N	C		
		S3 Form business alliances	C,N			C	N		C,I	C,I	C,N,I	I		C	C	N	
		S4 Maximise corporate-favourable media content	N	C	C									C		N	
		S5 Operate through third parties	C,N		N		N		N,I	N,I			N	C,I		N	
		S6 Secure support beyond business	C,N			C,N	N	C,N,I	N	N	C,N	C,N,I	N	C,N,I	C	N	
	E Shape evidence to manufacture doubt	E1 Amplify and blend corporate favourable evidence into public record	C,N		N	C,N	N	C,N,I	C,N,I	C,N,I	C,N,I		N,I	C,N,I	C	N	
		E2 Produce or sponsor favourable research/information	C,N			N	N	N,I	N	N	N	N		C,N,I		N	
		E3 Undermine and marginalise unfavourable research/ information	N								C						
	PH Displace and usurp public health	PH1 Deliver education and training to public health professionals	N			N	N	N	I	I	N,I			N		N	
		PH2 Deliver individual-level interventions	C,N			C,N	N	N	C,N	C,N	C,N	N		C,N		N	
		PH3 Promote “harm reduction” as public health goal	C,N			C,N		C,N			C,N	C		C,N	C	N	
		PH4 Undermine the rationale for statutory policies on corp practice	C,N	C		C,N	N	C,N			C,N			C	C	N	C
	R Manage reputations to corporate advantage	R2 Repair and nurture corporate reputations	C,N	C	C	C,N	N	C,N	C,N	C,N	C,N	C,N	C,N	C,N	C	N	

Table 3. Continued

			Context & Article Reference													
			Australia	Fiji	Thailand	France	Latin America & Caribbean	Colombia	Chile	South Africa	Brazil		Mexico	USA	Guatemala & Panama	
CPA Strategy		**CPA Subcategory**	21	13	23	24	34	25	14	27	28	29	31	35	32	33	36
Framing Strategies	GA Good actor corporations	GA1 Businesses are legal entities					N	C			C			C		N	C
		GA2 Industry is champion of public health	C,N	C		C,N	N	C,N	C,N	C,N	C,N	C,N	C,N	C,N	C	N	C,N
		GA3 Industry is key economic actor	C,N			C,N		C,N	C	C	C			C,N	C	N	
		GA4 Industry is legitimate policy actor	N			C,N	N	C				C,N	C,N	N,I		N	C
		GA5 Industry is legitimate scientific actor	C,N				N	N			C,N		C	N,I		N	
		GA6 Industry is part of the social fabric		C		C,N			C		C,N			C,N			
		GA7 Industry is socially responsible	C,N			C,N	N	C,N	C,N	C,N	C,N	C	C,N	C,N,I	C	N	
		GA8 Industry is victim		C													
	P Trivial individual problem	P1 Health harms are not caused by Industry's products/ services	C,N	C		C,N	N	C,N,I	C,N,I	C,N,I	C,N,I	C,N	I	C,N,I	C	N	
		P3 Health harms arise from atypical (minority) consumption	C,N	C		C,N	N	C,N	C,N	C,N		C,N		C,N,I		N	
	S Acceptable good solution	S1 Solutions should be self-regulatory and not disrupt business	N					N				N				N	
		S2 Solutions should target individuals, not whole populations	C,N			C,N	N	C,N	C,N	C,N	C,N	C,N		C,N	C	N	
	NS Unacceptable bad solution	NS1 Policies are unnecessary and unacceptable	N								C						C
		NS2 Policies will lead to losses for businesses, economy & society	N						C	C	C			C			
		NS4 Policy will fail & have perverse consequences	N														

Abbreviations: CPA, corporate political activity; ILSI, International Life Sciences Institute.

[a] The number under each context refers to the general reference list of this paper. C = Coca-Cola; N = Nestlé; I = ILSI. CPA strategies for which no evidence was found are not displayed in the table.

trying to "shape evidence to manufacture doubt." Nestlé and ILSI were observed to engage in *production and sponsoring of favourable research or information* ($n^{Nestlé}=10$; $n^{Coca\text{-}Cola}=2$; $n^{ILSI}=2$) in a substantial proportion of examined contexts. Nestlé's research and information often pertained the healthiness of their products (eg, infant nutrition), whereas ILSI focussed more broadly on dietary behaviours and physical activity. Efforts to *undermine unfavourable evidence or information* ($n^{Nestlé}=1$; $n^{Coca\text{-}Cola}=1$) were observed for only two actors, in one context each.

There were notable observations regarding activities to "displace and usurp public health." Efforts to *deliver individual-level interventions* ($n^{Nestlé}=10$; $n^{Coca\text{-}Cola}=6$) were observed for both Nestlé and Coca-Cola, with those of Nestlé mainly relating to nutrition, while those of Coca-Cola related mainly to physical activity. Coca-Cola was never observed *delivering education and training to public health professionals* ($n^{Nestlé}=7$; $n^{ILSI}=3$), whereas this was the only public health activity observed for ILSI. Notably, none of the actors were observed trying to *weaken the public health community*. Finally, actions to "manage reputations to corporate advantage" were only observed for Nestlé and Coca-Cola.

The framing strategies observed for Coca-Cola and Nestlé mostly aligned with the aggregated findings. Few articles observed ILSI utilising framing strategies.

Coca-Cola and Nestlé were observed to use "good actor corporation" frames in various contexts. For Coca-Cola, the *key economic player* ($n^{Nestlé}=5$; $n^{Coca\text{-}Cola}=8$), *social fabric* ($n^{Nestlé}=3$; $n^{Coca\text{-}Cola}=5$), and *legal entity* ($n^{Nestlé}=2$; $n^{Coca\text{-}Cola}=4$) frames were most widespread. For Nestlé, the *legitimate scientific actor* ($n^{Nestlé}=6$; $n^{Coca\text{-}Cola}=3$; $n^{ILSI}=1$) frame was notably more widespread, often in relation to infant nutrition. ILSI was rarely observed using these frames. None of the actors were observed using "proponents of population-scale actions as bad actors" frames, conform with the aggregated analysis.

The "trivial individual problem" frame was observed among all actors. Notably, the frame that *health harms arise from atypical consumption* patterns ($n^{Nestlé}=9$; $n^{Coca\text{-}Cola}=8$; $n^{ILSI}=1$) was only observed in use by ILSI in one context.

ILSI was not observed to engage with the topic of "acceptable good solutions" at all, whereas Coca-Cola and Nestlé did. The "unacceptable bad solutions" frame was only observed once for Nestlé and not at all for ILSI. It was observed in slightly more contexts, in various forms, for Coca-Cola.

Trade Associations

Table 4 summarizes the CPA strategies identified for trade associations. This actor group was monitored in 14 articles across 10 contexts. To avoid repetition, we will focus on findings that deviate from the aggregated analysis presented previously.

The action strategies of trade associations mostly aligned with the aggregated analysis. The first major difference was that trade associations were never reported to "use the law to obstruct policies," in contrast to the aggregated analysis.

With relation to "manufacturing public support for corporate positions," trade associations were rarely reported to be *forming business alliances* (n = 2), and were never reported to *fabricate allies* or *maximise corporate-favourable media content*.

For "shaping evidence to manufacture doubt," the findings fully aligned with the aggregated analysis.

For "displacing and usurping public health," the actions reported for trade associations aligned mostly with the aggregated sample. However, *undermining the rationale for statutory policies on corporate practice* (n = 7) was reported in more contexts than other actions, in contrast to the aggregated analysis.

For "managing reputations to corporate advantage," trade associations were reported to attempt *discrediting the public health community* (n = 3) in more contexts than they were reported *repairing and nurturing corporate reputations* (n = 4). Furthermore, these two approaches were rarely reported in the same article or context.

In terms of framing strategies, a few notable differences were observed. The "good actor corporations" frame was observed most widespread in the shape of the *industry as a key economic actor* (n = 6), *socially responsible* (n = 5), *legitimate policy actor* (n = 4), and *champion of public health* (n = 4) frames. The "bad actor corporations" frame was, in line with the aggregated analysis, reported in relatively few contexts. More notably, the "trivial individual problem" frame was reported in only two out of fourteen articles, whereas it was more widespread in the aggregated analysis. Observations regarding the "acceptable good solution" *and* "unacceptable bad solution" frames aligned with the aggregated analysis.

Discussion

This study synthesized evidence from studies that applied the INFORMAS tool[11] to monitor the CPA of food and beverages corporations, in order to develop insights into the existing evidence base on CPA, and identify points of improvement for the tool. The study identified several challenges for the tool, as well as strategies to address these. Furthermore, an overview was developed of the CPA identified by the tool across different contexts, supplemented with analyses of the CPA reported for commonly monitored corporate actors.

On the INFORMAS Tool

Our review of studies using the INFORMAS tool revealed two major issues.

The first concerns the flexibility of the tool with regard to what materials to include when monitoring CPA, as the prescribed "minimum step" only consists of industry-owned materials.[11] As a result, many studies examined materials from the monitored corporations, governing bodies, legislative bodies, other public institutions, professional organisations, and news media, while often omitting materials covering public consultations,[30] actors in the wider industry,[37] and academic releases.[37] In several cases, this was blamed on sources not being available or of low informational quality.[13,21,23,25-29,37] Because different CPA practices are unlikely to be equally represented across these sources, this can produce blind spots in the monitoring. Furthermore, the fact that the minimum step only covers industry-owned materials, and therefore

Table 4. The Observed Corporate Political Activities of Trade Associations[a]

			Context & Article Reference													
			Australia	France		Latin America & Caribbean	Portugal	Colombia		Chile	South Africa	Brazil		Mexico		Guatemala & Panama
CPA Strategy		**CPA Subcategory**	21	22	24	25	26	14	27	28	29	30	31	35	32	36
Action Strategies	P Access and influence policy-making	P1 Access policy-makers and spaces	x	x	x	x	x	x		x	x		x	x	x	x
		P2 Influence policy processes and outcomes	x		x	x	x	x	x	x	x	x		x	x	x
	S Manufacture public support for corporate positions	S3 Form business alliances													x	x
		S5 Operate through third parties	x		x					x		x		x	x	x
		S6 Secure support beyond business									x			x	x	x
	E Shape evidence to manufacture doubt	E1 Amplify and blend corporate favourable evidence into public record	x	x	x		x	x			x	x			x	x
		E2 Produce or sponsor favourable research/information	x		x		x				x	x			x	x
		E3 Undermine and marginalise unfavourable research/information				x					x	x		x	x	x
	PH Displace and usurp public health	PH1 Deliver education and training to public health professionals			x						x					
		PH2 Deliver individual-level interventions	x	x			x									
		PH3 Promote 'harm reduction' as public health goal	x								x	x		x		
		PH4 Undermine the rationale for statutory policies on corp practice	x		x			x			x	x		x		x
		PH5 Weaken the public health community			x											
	R Manage reputations to corporate advantage	R1 Discredit public health community								x		x				x
		R2 Repair and nurture corporate reputations	x								x		x		x	

Table 4. Continued

			Context & Article Reference														
			Australia	France	Latin America & Caribbean	Portugal	Colombia	Chile	South Africa	Brazil		Mexico	Guatemala & Panama				
CPA Strategy		**CPA Subcategory**	21	22	24	25	26	14	27	28	29	30	31	35	32	36	
Framing Strategies	GA Good actor corporations	GA2 Industry is champion of public health	x		x		x							x			
		GA3 Industry is key economic actor	x	x	x			x				x		x			
		GA4 Industry is legitimate policy actor	x									x	x	x			
		GA6 Industry is part of the social fabric			x												
		GA7 Industry is socially responsible						x			x	x		x	x		
	QA Bad actor proponents of population-scale action	QA1 Intervening policy-makers have questionable skills and motives			x											x	
		QA2 Public health community have questionable skills and motives										x					
	P Trivial individual problem	P1 Health harms are not caused by Industry's products/services										x				x	
		P3 Health harms arise from atypical (minority) consumption										x					
	S Acceptable good solution	S1 Solutions should be self-regulatory and not disrupt business	x		x			x				x				x	
		S2 Solutions should target individuals, not whole populations					x	x				x				x	
	NS Unacceptable bad solution	NS1 Policies are unnecessary and unacceptable	x				x					x		x		x	
		NS2 Policies will lead to losses for businesses, economy, and society	x		x				x		x	x		x		x	
		NS3 Policies/policy formulation contravene norms, rules, and laws							x			x					
		NS4 Policy will fail & have perverse consequences					x				x	x			x	x	

Abbreviations: CPA, corporate political activity.

[a] The number under each context refers to the general reference list of this paper. CPA strategies for which no evidence was found are not displayed in the table.

does not include information on the broader policy context that CPA generally aims to influence, could lead to important contextual information being missed in studies that stick to this minimum.

The second issue concerned resource and time constraints. Several studies reported that these forced them to limit their scope to a narrower set of corporate actors and/or sources, or limit the examined time-period.[14,21,22,25,28,30,34] From this we can conclude that the tool may be too resource-intensive for its original purpose as an accessible and low-cost method for long-term monitoring.[11] This is also supported by the observation that the tool has seen limited practical uptake beyond studies involving its creator (MM), despite being broadly referenced.[11] This issue likely explains why most reviewed studies did not truly engage in long-term monitoring, but rather in short-term cross-sectional studies, covering less than two years.[13,14,22,25-31,33,35] This illustrates that scientific studies predominantly used the tool for CPA assessment rather than long-term monitoring. Taking into account the previously discussed issues, we evaluated the usefulness of the INFORMAS tool for both purposes.

For short-term cross-sectional analyses, alternative approaches usually consist of case studies into specific events or contexts, using document analyses. For example, Fooks et al analysed industry submissions to the South African government's consultation on a proposed SSB tax, and how they used evidence.[39] Their findings provide in-depth insight into how evidence was (mis)represented, cherry-picked, and exaggerated to create convincing arguments against the tax. Abdool Karim et al studied the arguments used during the public participation process surrounding this tax, through analysis of draft bills, meeting minutes, and written submissions.[40] Their findings illustrate how stakeholders viewed the tax, and the types of arguments they used, including economic concerns, impact on vulnerable people, and concerns regarding the effectiveness and appropriateness of a tax, underpinned with detailed quotations. In comparison, Mialon and colleagues' study using the INFORMAS tool to examine corporate actors in South Africa, based on public materials published between 2018 and 2019,[29] provides a mapping view of the types of CPA that are used across different areas and by who, underpinned with illustrative examples. While Mialon et al do not discuss the SSB tax consultation (possibly because it fell outside the examined timeframe), their findings do illustrate corporate (mis)representation and manipulation of evidence, as well as arguments regarding the economic impacts of health policy, similar to Fooks et al and Abdool Karim et al. The main difference seems to be that the INFORMAS tool trades in-depth analysis of a specific CPA example for a broader view of the range of interconnected tactics and narratives across different domains.

Based on this comparison, we argue that the tool has a purpose for short-term *CPA assessment*. CPA does not occur in a vacuum (eg, a specific case), but must be understood as a range of interconnected and concurrent activities across a multitude of domains, as illustrated by the Commercial Determinants of Health model.[1] An example would be the financing of academic research in one domain, which are then used to support arguments in public consultations in another. The broad mapping approach of the tool arguably limits its analytical rigour, but also enables it to identify cross-cutting connections or areas of notable CPA efforts. Thus, we argue that the tool has value as an explorative method for both novel and revisited contexts, to identify (changes in) high-level trends in CPA (eg, dominant framings, approaches, or synergies between CPA in different domains) and cases of interest for further in-depth studies such as Fooks et al[39] and Abdool Karim et al.[40]

There are several opportunities to strengthen the analytical rigour of the tool for CPA assessment. To reduce the bias risk inherent in flexible source selection, the recommended "minimum step" could be expanded, and guidance could be given for selecting a diverse set of resources. Ideally this would include a broader examination of the overall policy context in which the CPA take place. Another option is the frequently observed triangulation with interviews; eg, asking stakeholders whether they recognize CPA examples identified in documents and know of additional examples not identified through public data, and to elaborate on those experiences.[11] To address the often-mentioned resource constraints, researchers can limit their study scope to a period surrounding a major event where CPA are likely to be employed (eg, introduction of a new policy or reputation management during a health crisis[31]). Finally, it should be acknowledged that the INFORMAS tool is but one approach to CPA assessment, and should be triangulated with other methods.

For the purpose of *long-term CPA monitoring*, triangulation with other data sources such as experiential experts or internal documents is equally important. As noted earlier, the fact that some of the recommended sources are not always available or complete may lead to blind spots. Additionally, the tool's demanding resource requirements make it challenging to fund a rigorous long-term monitoring study. In the light of these issues, we may consider what alternatives there are for long-term CPA monitoring.

Unfortunately, these are limited. Studies such as Ulucanlar et al[41] and McCambridge et al[42] rely on preexisting evidence bases and/or databases of internal industry documents, which are unfeasible for long-term monitoring or novel contexts. The WHO's *Tobacco Industry Interference Index* provides a similar alternative that scores industry interference in policy-making,[43] based on evidence collected by civil society or governmental respondents. Although the quantification enables easier comparisons, this also arguably reduces analytical depth. Furthermore, the reliance on respondents may reduce resource requirements, but also introduces bias risks (eg, in recruitment or participant response rates), and the focus on policy processes/involvement omits CPA strategies such as information management or framing. Overall, each tool seems to represent different trade-offs (eg, workload versus comprehensiveness) and opportunities for methodological triangulation. Regardless of the method, monitoring would ideally be the purview of civil society rather than academia, because the emphasis on broad scale and long time-frames will generally come at the cost of analytical depth

and rigour and require consistent long-term funding, both of which align poorly with the realities of academic research.

At the same time, the use of the INFORMAS tool for long-term monitoring can be facilitated in multiple ways. The first is to create or expand data infrastructures that streamline data collection, such as public repositories of industry-funded research and communications, or governmental transparency acts, in order to reduce the resource demands of monitoring. The second is to explore avenues for automatization. Scraping tools could automate the retrieval of raw data from online sources,[44] although there are limitations (reliance on APIs or advanced scripts, anti-scraping measures) and legal (copyright) and ethical (privacy) constraints.[44] Artificial intelligence (AI) can help scraping tools to adapt to anti-scraping measures,[44,45] but also adds further legal and ethical boundaries that should be considered carefully.[45-50] It can also support the qualitative analysis of retrieved materials, although validation by a human remains essential,[46-50] thus limiting its applications to acting as a double coder,[47-50] or generating preliminary codes to be critically revised.[46] Finally, citizen science could be used to divide the monitoring workload.[51] Existing examples of community-based monitoring seem particularly suitable,[52] such as those used for environmental monitoring,[53] which could be adapted for digital "environments." This could also help empower those people negatively impacted by corporations.

On the Reported Corporate Political Activity

Prefacing this discussion we emphasize that the evidence base skews heavily towards Latin America and Europe, thus limiting our ability to draw conclusions beyond these regions. Furthermore, we iterate that the analysis can only ascertain whether certain CPA examples were observed in a context, and not their relative frequency.

The majority of articles identified all but two action and framing strategies as identified by Ulucanlar et al.[8] The exceptions were the "*using the law to obstruct policies*," and "*bad actor proponents of population-scale action*" strategies. Furthermore, strategies that antagonised public health proponents (eg, *weakening* & *discrediting the public health community; public health proponents* & *intervening policy-makers have questionable skills and motives*) were observed in fewer articles than subversive approaches (eg, *policy substitution*, *providing information or training*, *industry is a champion of public health*). In contrast, attacks on policies appeared in more articles (eg, "*bad solution*" framing), usually emphasizing negative side-effects or lack of impact, and suggesting industry-preferred alternatives. The core issue of public health problems was rarely doubted, but rather what their exact causes were.

These findings align with the idea that the food industry tries to present itself as "part of the solution."[54] This stands in sharp contrast to the strategies employed by tobacco companies in the 20th century which eventually resulted in substantial losses of legitimacy and social capital, and may be viewed by current-day corporations as a cautionary tale.[55,56] The heterogeneity of the food industry may also enable greater cooperation, as they have more opportunities to pivot towards healthier products.[56] This approach creates risks and opportunities for public health. Collaborations with corporate actors could divide the public health community,[55] but could also weaken corporate alliances and their ability to counteract public health measures.[55,57] Therefore, such collaborations can be considered but should be approached with care.

Notably, the limited observation of "antagonistic" strategies in this review is contradicted by recent studies on the numerous intimidation tactics from health-harming industries (ranging from public defamation to physical violence) faced by public health communities.[58,59] This may be due to several of these tactics (eg, cyber-attacks, theft, surveillance) being unlikely to be visible in publicly available sources (as discussed above), indicating a blind spot for the INFORMAS tool. This reinforces the importance of triangulating the tool with other approaches, such as interviews.

Building on the idea of "external predictors" for CPA,[9] an interesting difference emerges when comparing regions. Certain CPA strategies were almost exclusively reported in the Global North (Europe, Australia, USA): *industry is legitimate scientific actor*; *industry is part of the social fabric*. Others were almost exclusively reported in the Global South (mainly Latin America): *use law to undermine policy-making/public health community*; *use legal challenges to policy; fabricate allies; weaken the public health community; discredit public health community; policies/policy formulation contravene norms, rules & laws*. This aligns with other evidence on the aggressive tactics of corporate actors in low- and middle-income countries,[60,61] and the declining institutional strength and judicial capture in Latin America.[62] Similarly, the language and funding structures favouring academia in the Global North may facilitate corporate strategies around scientific legitimacy.[63] Further exploration into these and other potential predictors between regions and countries (eg, the use of religion-based framing in Asia[64]) could be invaluable for the development of counteractions against specific CPA strategies.

Another side of this coin is that CPA can also be influenced by the characteristics of the corporate actors themselves (the internal predictors).[9] Although of limited scope, our analysis showed notable differences between actors. ILSI, for example, was mostly observed using strategies related to knowledge evaluation, production, and dissemination. These strategies would align with how ILSI positions itself as knowledge institute.[65,66]

Trade associations differed notably from the other actors, in that they used antagonistic strategies and messages in substantially more contexts. This may have several explanations: Toenshoff shows that championing unsympathetic positions (and, we hypothesize, using unsympathetic tactics) carries reputational costs, which firms likely try to avoid by channelling such activities through trade associations.[67] In contrast, actions that may benefit the corporate reputation, such as presenting themselves as "part of the solution," are performed under the corporate banner.[54] Furthermore, Vesa et al show that diverging political aims often lead corporations to lobby individually, rather than collectively.[68] The conflict between Coca-Cola and Carozzi

in Chile regarding a new labelling law is a clear example. This dynamic could further reinforce the role of trade associations as a front for reputationally damaging positions, in terms of lobbying, leading to tangible differences with how corporations act individually.

Corporations also differed among themselves in terms of activities. For Nestlé, strategies associated with information production, dissemination, and scientific legitimacy, as well as the healthiness of their products, appeared most commonly. For Coca-Cola, strategies regarding lobbying, business alliances, emphasizing economic importance, and frames de-emphasizing the importance of nutrition and emphasizing responsible consumption were most widespread. Hillman and Michael propose that such deviations in corporate strategy are linked to specific characteristics. Corporations with greater legitimacy are for example likely to emphasize information strategies.[69] In the case of Nestlé, we thus hypothesize that their dairy products, which are more easily construed as healthy (although this is not the case in practice[70]), grant them a reputation of legitimacy on matters of health, leading to greater use of the associated information tactics. Coca-Cola's products, in contrast, are commonly (and publicly) to linked to health issues,[71,72] which, in combination with their substantial employment footprint in the examined countries pushes them towards economic framings and constituency building instead.[69] These factors and how they affect CPA in practice warrant further investigation, as to support better understanding and anticipation of the CPA of specific corporate actors.

Implications for Research, Policy, and Practice

For academic research, the main value of the tool seems to be in its application as an explorative approach. For this purpose, we recommend that the tool is predominantly used for explorative cross-sectional analyses, in order to identify high-level trends in CPA and areas of interest for further in-depth studies. In this capacity, its rigour can be improved by expanding the number and diversity of examined sources, explicitly including an analysis of the policy context, and triangulating with other methods (eg, stakeholder interviews). Such explorations should be followed up with in-depth case-studies, aiming for elaborate qualitative analyses of specific CPA related to cases or actors.[39,40] Our dataset provides a starting point for such studies (Supplementary file 2). Regarding the evidence on CPA, our findings illustrate how CPA can vary substantially between corporate actors and contexts, the exact determinants and dynamics of which may warrant further investigation.

For policy and practice, the main value of the tool would be in its original application for long-term monitoring, to develop an ongoing picture of CPA in a specific context. For this purpose, we recommend that long-term monitoring is predominantly taken on by civil society or governmental actors, whose goals and funding dynamics are best-aligned with the requirements of continuous monitoring work. For those actors, the resource demands of the tool can be reduced by developing or expanding data infrastructures (eg, reporting standards for lobbying activities, obligatory submission of public documents to repositories) to streamline data collection and support monitoring as a recurring and ongoing project. Alternatively, automatization through scraping tools or AI can lessen resource demands, although these also introduce practical, legal and ethical concerns.[44-50] Another avenue would be to leverage citizen science,[51-53] similar to the approach taken by the WHO's Tobacco Industry Interference Index.[43] The latter may also be considered as a less resource-intensive but also less in-depth alternative to the INFORMAS tool. In terms of current evidence, this study provides public health proponents with a broad overview of CPA across a wide range of contexts and corporate actors, thus enabling them to formulate counterstrategies.[10,57]

Strengths and Limitations

The main strengths of the study were: (1) the snowballing approach ensuring that any publication that used the tool (and properly referenced it) was included in the search; (2) the triangulation of article selection and coding among multiple researchers; (3) the use of original data for the analyses of specific corporate actors; (4) the focus on articles that used comparable methodologies strengthening their comparability and thus the validity of the resulting conclusions.

The study also had limitations. (1) The analysis using combined original data was limited to three actors, limiting its generalisability. (2) The included studies skewed towards Latin America and omitted other regions, limiting the generalisability of our findings on CPA to underrepresented regions. (3) The coding of original data was not triangulated between researchers, increasing the likelihood of bias. However, this risk was reduced by comparing our coding against the original coding of this data as a validation measure. (4) The study relied solely on snowballing for its literature search. Therefore, articles that used the tool but did not reference it could have been missed. However, this would require dubious citation practices in such articles. (5) The evidence base for actor-specific findings is limited, and thus broader conclusions should be drawn with caution. (6) The analysis relied on basic presence/absence coding, which prevented more in-depth analyses and conclusions on the relative frequency of specific strategies.

Conclusions

This study reviewed the evidence gathered by the INFORMAS tool for CPA monitoring, and evaluated the tool itself. Our findings provided a comprehensive overview of CPA across a wide range of countries. Furthermore, we presented in-depth analyses of the CPA of the most frequently monitored corporate actors, identifying characteristic differences in the CPA strategies employed by these actors. Regarding the tool itself, we showed that it was often used for short-term CPA assessment rather than long-term monitoring, due to resource constraints and the limitations of relying on publicly available information. Finally, we discussed recommendations on how the tool can be improved for future use, for the purposes of both short-term CPA assessment by academic researchers and long-term CPA monitoring by civil society and governments.

Disclosure of artificial intelligence (AI) use

No AI was used in conducting this study and writing of this article.

Ethical issues

Not applicable.

Conflicts of interest

Authors declare that they have no conflicts of interest.

Authors' contributions

Conceptualization: Cédric N.H. Middel, Joreintje D. Mackenbach, and Mélissa Mialon.
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Supplementary files

Supplementary file 1. Codebook.
Supplementary file 2. Extracted and Coded Data.
Supplementary file 3. Included Articles and Their Characteristics.
Supplementary file 4. Challenges and Adaptations of the Tool.

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