



Evaluating Coca-Cola's attempts to influence public health 'in their own words': analysis of Coca-Cola emails with public health academics leading the Global Energy Balance Network

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Abstract

Objective: We evaluate the extent to which Coca-Cola tried to influence research in the Global Energy Balance Network, as revealed by correspondence between the company and leading public health academics obtained through Freedom-of-Information (FOI) requests.

Design: US state FOI requests were made in the years 2015–2016 by US Right to Know, a non-profit consumer and public health group, obtaining 18 030 pages of emails covering correspondence between The Coca-Cola Company and public health academics at West Virginia University and University of Colorado, leading institutions of the Global Energy Balance Network. We performed a narrative, thematic content analysis of 18 036 pages of Coca-Cola Company's emails, coded between May and December 2016, against a taxonomy of political influence strategies.

Results: Emails identified two main strategies, regarding information and messaging and constituency building, associated with a series of practices and mechanisms that could influence public health nutrition. Despite publications claiming independence, we found evidence that Coca-Cola made significant efforts to divert attention from its role as a funding source through diversifying funding partners and, in some cases, withholding information on the funding involved. We also found documentation that Coca-Cola supported a network of academics, as an 'email family' that promoted messages associated with its public relations strategy, and sought to support those academics in advancing their careers and building their affiliated public health and medical institutions.

Conclusions: Coca-Cola sought to obscure its relationship with researchers, minimise the public perception of its role and use these researchers to promote industry-friendly messaging. More robust approaches for managing conflicts of interest are needed to address diffuse and obscured patterns of industry influence.

Keywords
Coca-Cola
Vested interest
Obesity

In 2015, the New York Times revealed that Coca-Cola funded a global network of scientists, the Global Energy Balance Network (GEBN), ostensibly to divert attention from the contribution of sugar-sweetened beverages to obesity epidemic, instead blaming inadequate exercise⁽¹⁾. A year later, a senior official at the Centers for Disease Control and Prevention was found to have communicated with a former Coca-Cola executive, strategising how to convince the WHO to collaborate with the food industry to promote the same message⁽²⁾.

These revelations raised concerns that Coca-Cola seeks to influence public health researchers to promote its interests, consistent with other evidence that the food industry has sought to influence public policy^(3–5). Recent concerns focus on industry funding of science on sugar-sweetened beverages⁽⁶⁾, with evidence that studies funded by industry are more likely to report conclusions favourable to the industry's position^(7,8). Such findings contrast with extensive evidence that sugar-sweetened beverages increase childhood obesity^(9–14).

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Apart from a few leaked sources⁽¹⁵⁾, there is little access to Coca-Cola's internal documents, in contrast to tobacco industry documents^(16,17). A series of recent studies have begun analysing emails identified through Freedom-of-Information (FOI) requests. One recent study found that the Principal Investigator of the Coca-Cola funded International Study of Childhood Obesity, Lifestyle and the Environment may not have accurately declared conflicts-of-interest⁽¹⁸⁾. Another found that Coca-Cola believed it to be in a 'war' with the public health community⁽¹⁹⁾. Finally, a more recent investigation of one exchange among former senior executives of Coca-Cola revealed they advocated for a deliberate and coordinated approach to influence scientific evidence and expert opinion⁽²⁰⁾.

Here, we identified public health researchers funded by Coca-Cola who played leading roles in the GEBN at two public institutions, West Virginia University and University of Colorado (UC), identified in Coca-Cola's 'Transparency List' of grantees^(21,22) and a New York Times investigation⁽¹⁾, and performed state FOI requests for their communications with The Coca-Cola Company. We evaluate these documents to assess how Coca-Cola sought to portray its relationship with those researchers it funded against a taxonomy of food industry activities to influence politics as identified by Mialon and colleagues⁽²³⁾.

Methods

Source of data

Following publication of the New York Times investigation, we asked whether Coca-Cola sought to influence the research it funded. We examined the list of who Coca-Cola funds in the GEBN⁽²⁴⁾ looking for public institutions that would be required to release information under FOI laws. James Hill (UC) was president and Steven Blair (University of South Carolina) was Vice-President of the GEBN, co-Vice-Presidents were Gregory Hand, at West Virginia University, and John Peters from UC. Thus, during 2015 and 2016, US Right to Know (USRTK) made FOI requests to assess potential links between Coca-Cola and public health academics (i.e., FOI). An online screening tool from the United Kingdom National Institute for Health Research indicated that ethics approval was not required, as the study involved secondary data.

Specifically, two main FOI requests were filed by USRTK, a non-profit consumer and public health organisation that aims to increase transparency and accountability in the US food system. A full list of donors is available here: <http://usrtk.org/donors/>, and the executive director of USRTK is a co-author of the paper.

First, on 17 July 2015 USRTK filed a request with the UC for emails sent or received by John Peters, professor at UC Anschutz Health and Wellness Center, regarding Coca-Cola, the GEBN and individuals affiliated with it. Eleven thousand seven hundred and fourteen pages of correspondence were

received on 24 March 2016. USRTK also filed to UC on 15 July 2016 for emails sent or received by James Hill, Founding Executive Director of the UC Anschutz Health and Wellness Center, from staff or employees of Coca-Cola. One thousand three hundred and thirty-four pages were received on 28 October 2016. However, responses have, as of September 2018, yet to be received from University of South Carolina. Second, USRTK filed request on 14 August 2015 to West Virginia University for emails sent or received by Gregory Hand, then Founding Dean of the West Virginia University School of Public Health, seeking exchanges regarding Coca-Cola, the GEBN and individuals affiliated with it. Responses were received as blocks of email exchanges of varying lengths and responses, rather than discrete, individual email messages. USRTK received 4982 pages on 26 January 2016.

Taken together, this yielded 18 030 pages which reflect, at the time of writing, to our knowledge the largest publicly available source of data of Coca-Cola's interaction with academics. We undertook iterative searches of documents between May 2016 and December 2016. Emails were manually read in date order, interpreted and thematically coded by an experienced, qualitative researcher (PS). A second researcher (DS) independently reviewed and validated the coding. No differences were found, as the themes were straightforward. These were subsequently presented, where applicable, according to the strategies, practices and themes identified in Mialon *et al.*, including 'information and messaging', 'financial incentive', 'constituency building', 'legal', 'policy substitution' and 'opposition'.

We sought to achieve validity and reliability in several ways⁽²⁴⁾. We discussed selection and interpretation of the material within the research team, seeking to minimise personal biases that may have influenced our findings, with interpretation of all documents checked by at least one other researcher. Following best practices in qualitative research, we report all source material cited in the main text (not all correspondence received) directly and in full in online Appendices so that our interpretations are reproducible and accessible. Second, we note potential bias in sampling, which results from some FOI requests being unfulfilled and from some documents having been destroyed. Third, we created a clear decision trail to ensure that interpretations were consistent and transparent.

As far as possible, given space constraints, we provide specific dates of email exchanges, positions of persons involved and quote directly. To enable reproducibility, all source material cited in the main text (not all correspondence received) is available in a series of Web Appendices, numbered below as A1–42. Fourth, we actively sought to refute our findings to the extent possible. Emails that were not included reflected those containing no substantive content relevant to the research question or were those repetitive of existing points. Box 1 summarises names and affiliations of those included.



Results

Two main overarching strategies of the framework by Mialon and colleagues were identified, involving 'information and messaging' to shape the research agenda and evidence and 'constituency building' to establish a network of researchers and key opinion leaders. Following this framework, we observed that each overarching strategy was in turn associated with several specific practices, such as the transparency of Coca-Cola as a funding source and the existence of an informal but potentially influential network of researchers with links to the company. This section now explores these mechanisms in detail, discussing Coca-Cola's interests in the work of academic researchers and the key individuals and organisations involved.

Strategy 1. Information and messaging

Obscuring Coca-Cola as the funding source

Email correspondence appeared to indicate efforts to minimise the role of Coca-Cola as a funding source. This included mechanisms such as diversifying the number of partners and institutions as well as seeking ways to avoid disclosing the magnitude of Coca-Cola financing. In February 2015, Yoni Freedhoff (assistant professor of family medicine at University of Ottawa and obesity expert) emailed Amelia Quint (GEBN communications director) asking about the GEBN's funding source. On 26 February 2015, Quint emailed a group of scholars and industry representatives (Steven Blair; Gregory Hand; John Peters; James Hill, then Founding Executive Director of the UC Anschutz Health and Wellness Center; Rhona Applebaum, then VP and Chief Health & Science officer at Coca-Cola; and Celeste Bottorff, then Vice-President of Global Health & Wellbeing Initiatives at Coca-Cola), requesting permission to issue a statement drafted by Bill Layden, co-Founder and Partner at FoodMinds (a public relations firm specialising in food and nutrition that consulted for the GEBN) and an expert in nutrition science and policy. John Peters responds to the email with advice on the best course of action (A1):

We are certainly going to have to disclose this [Coca-Cola funding] at some point. Our preference would be to have other funders on board first (...). Right now, we have two funders...Coca Cola and an anonymous individual donor. (...) Jim [Hill] and Steve [Blair], does including the Universities as funders/supporters pass the red face test? (A2)

Emails also identified an apparent reluctance to reveal the scale of Coca-Cola's funding. John Peters emailed Kathleen Jaynes (Director of Development at UC Anschutz Medical Campus) on 6 February 2015 asking whether the UC Foundation had a policy 'about disclosing the amount of any gift'. He explains the reason for his question:

We are managing some GEBN inquiries and while we disclose Coke as a sponsor we don't want to

disclose how much they gave. Some foundations have policies on this. (A4)

There were other concerns about how to acknowledge Coca-Cola's funding publicly. In correspondence between Applebaum, Peters, Blair, Hand, Hill, Quint and Bottorff, on 6 February 2015, the group debates alternative phrasings for disclosing funding on GEBN's website. These include the terms 'gift', 'grant', 'unrestricted grant' and 'unrestricted education gift.' Peters concluded: 'I am not sure about the use of Grant *v.* Gift. Might Grant imply there is agenda attached vs. gift seems less tethered?' (A5).

Emails also reflect on disclosure of Coca-Cola's role and its impact on public perception. In preparing for the launch, the Steering Committee had to decide whether or not to disclose the funding amount received from the company. Describing the events to Bill Layden (FoodMinds public relations firm), in an email sent on 3 March 2015:

TCCC [The Coca-Cola Company] was pretty adamant re the downside [of acknowledging Coca-Cola funding in the press release of the GEBN]. (...) This was about making sure the story started with what we are about and not just a funding story... which will happen soon anyway. (A7)

John Peters, Stacey Stevens (Senior Vice-President of FoodMinds) and Bill Layden (FoodMinds) seem to have anticipated that this might raise questions and drafted a 'Spokesperson Q&A' with answers to challenging questions that the group anticipated. The document was amended by James Hill and Steven Blair, reviewed by Applebaum, vetted by Coca-Cola's communications' team and emailed to all aforementioned persons on 8 February 2015 (A8). In response to the question 'How much money did The Coca-Cola Company put into the initiative?', a 'Spokesperson Q&A' for the GEBN suggests:

As a matter of Colorado state law, we cannot disclose specifics about donations without the express permission of the donor. We do routinely disclose when industry funding is accepted to fund an initiative or a research project. In this case, the gifts from food and beverage companies are unrestricted which means, unequivocally, that the funders neither influence nor control the way the funding is used. (A9)

Shaping the evidence base on diet and public health-related issues

Emails suggest efforts 'to shape the evidence base on diet and public health-related issues', a practice associated with the strategy of information and messaging in Mialon and colleagues' framework. Emails from Applebaum (VP Coca-Cola) to the research group referred to particular lines of research. On 9 October 2013, in response to a BMC Health study on the lack of evidence for weight loss interventions, Applebaum emails James Hill, Steve Blair, John Peters, Gregory Hand, David Allison, Associate Dean of the School of Public Health at the University of Alabama



and Edward Archer, from the Nutritional Obesity Research Center, at the University of Alabama:

[we] need to get ahead of this in order not to lose the focus on En Bal—it's not a simple mass balance—but this is why folks are getting confused – some intentionally . . . (A19) [note: En Bal refers to energy balance]

One mechanism associated with this practice is to 'participate in and host scientific events.' Emails found that senior officials from Coca-Cola offered to coordinate meetings on the GEBN. On 29 June 2015, Stacia Lupberger, a registered dietitian and GEBN Project Manager at the UC, emailed Peters, Blair, Hand, Hill and other supporting staff that she had a productive meeting with Clyde Tuggle (Coca-Cola's Chief of Public Affairs and Communications Officer) and Joanna Price (Coca-Cola's Public Affairs & Communications Director), who offered to 'facilitate meetings with their contacts (& Coca-Cola staff) in various countries (. . .) to discuss GEBN. (. . .) Coca-Cola will reach out to their contacts and try to arrange a coffee, lunch or dinner' (A21).

Strategy 2. Coalition building

Establishing Coca-Cola's network of researchers

The emails between Applebaum (then VP of Coca-Cola) and the academics involved in Coca-Cola-funded research suggest a coalition-building strategy of establishing a close-knit group discussing topics such as recent publications, academic accolades, conferences and keynote speeches, media, basketball and other mundane topics, with a strong spirit of camaraderie and pride in their scientific collaboration and research endeavours. For example, on 26 June 2015, following the news that the West Virginia University School of Public Health had received a Council of Education accreditation, under the leadership of Gregory Hand, Applebaum congratulated Hand and asked whether she could share the news with 'our [hers and Hand's] email family'. Hand agreed and, on June 28, she addressed a large group of researchers, presumably the 'email family', to share the announcement of the Council of Education accreditation (see appendix for original email) (A14). It was the second time Applebaum used the expression 'email family' when addressing these researchers (A15). And on 17 October 2014, Gregory Hand asked Applebaum by email 'are things going well at my favorite company?' (A16).

Coca-Cola appeared willing to strengthen the public health institutions concerned. For example, in an email Hand sent to Celeste Bottorff (then Vice-President of Global Health & Wellbeing Initiatives at Coca-Cola) and Teresa Nass (a public relations specialist, which helps create and maintain a favourable public image as well as writing press releases and fund-raising, at the West Virginia University School of Public Health), on 21 December

2014, Gregory Hand (at the time Dean), thanks Bottorff for Coca-Cola's pledge to support his effort to develop a communication plan to put the School of Public Health 'on the map and educate the state as to what public health is' and why the school is important: 'I can't tell you how much we appreciate your willingness to extend your expertise to help us out. (. . .) I know how much you have to offer us, and we do appreciate it.' (A49).

Hand also emails Applebaum on 11 June 2015 explaining how Applebaum would receive an invitation to become a member of the Visiting Committee of the School of Public Health at West Virginia University from the Vice President of Health Sciences, and how Dean Hand regarded her as a great asset who could 'offer a unique perspective' in 'teaching the next generation of public health leaders'. In discussing this affiliation with colleagues at West Virginia University, Hand appears to reflect on the intentions of Coca-Cola. He writes to Karen Galentine, the Director of Development at West Virginia University's School of Public Health, forwarding correspondence with Applebaum about the invitation to join the School, and writes about Applebaum: 'And yes, she has an agenda 😊' (A50).

Establish relationships with policymakers

Emails contained evidence of practices associated with 'coalition-building', including to establish relationships with key opinion leaders and health organisations and to establish relationships with policymakers. In some cases, these two practices appeared conjoined, as the academe-Coca-Cola partnership facilitated contacts with other entities, including politicians, industry and community groups and researchers.

For example, Hand's role as Founding Dean of West Virginia University School of Public Health may have involved political engagement. In an email sent to Alison Patient, Senior Director of Corporate Affairs at Coca-Cola and former Chief Counsel for the House Finance Committee of West Virginia Legislature, in January 2015:

Thank you Rhona for the introduction. As usual, 'I owe you.' . . . Hello Alison [Patient] . . . I look forward to your insights into West Virginia. While I'm very new here, my role has immediately put me into the political arena (already dozens of emails and phone calls and the governor hasn't even published his budget yet) (A22).

In turn, Applebaum offered to introduce Dean Hand to influential individuals and organisations, such as the CEO of the Sports & Fitness Industry Association, linked to The Physical Activity Council. Steve Blair asked Applebaum whether she knew anyone at The Physical Activity Council, a potentially 'great group for GEBN to work with'. Other groups were also identified as useful contacts in Applebaum's response to Blair:

Also op[portunity] via Anne Flannery who's now President/CEO of Boys and Girls Clubs of Northwest



Indiana – Let me know to connect. Last – can try a call into Tom Cove directly at SFIA [Sports & Fitness Industry Association] (. . .). He's the CEO (A23).

Academics could also broker contacts with other medical and public health organisations. On 14 October 2014, Applebaum emailed Hill and Blair commissioning a review on public–private partnerships for the US and European Endocrinology journals. She proposed a collaboration with several external organisations, including the GEBN, which she suggested could help insulate against potential criticisms:

Then [after the partnership is established] the # of experts and reputable orgs is too large for any naysayers to cull the pack and attack. (A42)

In summary, these interactions seemed to provide mutual benefit to Coca-Cola and researchers that went beyond individual research projects.

Conclusion

Our analysis reveals a series of strategies, practices and mechanisms employed by Coca-Cola to influence the academic community and general public to promote its interests. Specifically, we observed two overarching strategies contained in the framework of Mialon and colleagues. First, we found evidence of 'Information and Messaging' strategies and associated practices. These practices included an attempt to divert attention from The Coca-Cola Company's role as a funding source in research; diversifying funding partners; and, in some cases, downplaying the amount of funds it donated. Second, there was evidence of a 'coalition-building' strategy, through which Coca-Cola supported a network of academics that could promote messages associated with its public relations strategy and sought to support those academics in advancing their careers and building their affiliated public health and medical institutions.

As with any content analysis of email documents obtained through FOI, our research has several limitations. First, our analysis cannot be comprehensive because it draws on FOI requests, rather than documents discovered through court proceedings which may be more comprehensive. Second, our analysis investigated Coca-Cola documents involving two public institutions. Thus, our findings pertaining to a small set of institutions cannot generalise to all segments of the industry. Future research is needed to investigate the role of other partners in the GEBN, including PepsiCo, and other institutions which fund researchers and may have vested interests. Third, we make no judgement on whether any influence led to bias. That would be much more complex, requiring assessment of questions not asked and measures not used, and goes far beyond the scope of this research. Finally, to address the potential criticism that these quotes are taken out of context, we have reproduced the email exchanges in full in an online

appendix to facilitate reanalysis by others. We also searched for evidence that would falsify our interpretations and support an alternative hypothesis. For example, we sought to find emails in which Coca-Cola was open and transparent about sources of funding, their quantity and its associated roles in the GEBN but we were unable to identify such evidence in the document set.

Our findings regarding Coca-Cola's relationship with two public institutions are consistent with other anecdotal findings of industry efforts to influence and support research which promotes its interests. In South Africa, Coca-Cola funded the Institute for Race Relations to conduct research on a proposed sugar tax⁽²⁵⁾. The resulting policy paper opposed sugar-sweetened beverage taxes, but the conflict of interest was not disclosed⁽²⁶⁾. Recently, in December 2016, the *Annals of Internal Medicine* published a review of sugar-related research funded by the International Life Science Institute claiming that dietary sugar guidelines are not 'trustworthy recommendations'⁽²⁷⁾, partly in response to the publication of the WHO's sugar guideline revision⁽²⁸⁾. This review attracted criticism based on scientific flaws and conflict-of-interest statements^(29,30). The International Life Sciences Institute was funded by food and beverage companies, including Coca-Cola, Dr Pepper Snapple Group, PepsiCo and Nestle, and, despite claims that the study was conducted 'independently', the study notes that the protocol was 'reviewed for scope clarifications and approved by ILSI [International Life Sciences Institute]'. In 2015, Rhona Applebaum stepped down as Coca-Cola's chief scientific officer after revelations in the *New York Times* that under her leadership Coca-Cola initiated research funding to downplay the role of sugar-sweetened beverages in obesity⁽³¹⁾.

One strength of our analysis is that it goes into greater detail than was possible in earlier news stories and places the findings within the broader context of corporate influences on health. However, this activity fits a pattern that has been seen in recent activities in attempting to combat sugar taxes, creating close ties and networks with scientists and seeking to exert 'soft power' on politicians and civil servants to undermine public health policy initiatives⁽³²⁾. Such efforts to influence public health research policy are not unique and have been observed in tobacco and alcohol industries as well as multiple global health actors, including international financial institutions and philanthropic foundations^(33–36).

One notable observation was what appeared to be attempts to obscure the source and amount of funding, as well as its role. Coca-Cola's official public relations response to inquiries about funding sources was to claim that they could not disclose specifics about funding. However, to our knowledge there are no restrictions on releasing information about Coca-Cola's contribution to the funding of the GEBN or the size of the contribution; the Colorado Revised Statutes specifically exempt only 'institutionally related foundations' from disclosure as part of the Colorado Open Records Act process.

Taken together, our research has important implications for managing potential competing interests in health research. First, the nuanced discussion we reveal about acknowledging funding shows that conflict-of-interest statements may not capture the full scope of conflicts and may be subject to misinterpretation. Analogous to the growing practice of data sharing, there is a case for requiring funding contracts to be made available on request or including them in an online appendix. Second, Coca-Cola appears to seek out and support researchers who hold views favourable to its position, rather than to pressure researchers to change their views. This enabled a 'meta-narrative' about the causes of obesity that downplays the role of Coca-Cola products and emphasises alternative intervention strategies such as to increase physical activity which are favourable to the industry's position. Taken together, these efforts appear to form a 'public information campaign'⁽³⁷⁾ to persuade the public, launched by Coca-Cola, and they are consistent with a search for credibility from drawing on researchers' scientific capital. With the GEBN, the emails demonstrate a network of scientists whose research focused on 'physical inactivity' as a major, if not the main cause of obesity⁽³⁸⁾. More immediately, our findings, and those of others⁽³⁹⁾, highlight the importance of examining the source of funding of individual studies and when combining studies, as in meta-analyses.

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Supplementary material

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References

- O'Connor A (2015) Coca-Cola funds scientists who shift blame for obesity away from bad diets. *New York Times*.
- Gillam C (2016) Beverage industry finds friend inside U.S. Health Agency. *Huffington Post*.
- Brownell K & Warner KE (2009) The perils of ignoring history: Big Tobacco played dirty and millions died. How similar is Big Food? *Milbank Q* **87**, 259–294.
- Stuckler D & Nestle M (2012) Big food, food systems, and global health. *PLoS Med* **9**, e1001242.
- Nestle M (2002) *Food Politics: How the Food Industry Influences Nutrition and Health*. Berkeley, CA: University of California Press.
- Forum UH (2018) *Public Health and the Food and Drinks Industry: The Governance and Ethics of Interaction*. Lessons from research, policy and practice. London: UKHF.
- Bes-Rastrollo M, Schulze MB, Ruiz-Canela M *et al.* (2013) Financial conflicts of interest and reporting bias regarding the association between sugar-sweetened beverages and weight gain: a systematic review of systematic reviews. *PLoS Med* **10**, e1001578.
- Lesser L, Ebbeling CB, Goozner M *et al.* (2007) Relationship between funding source and conclusion among nutrition-related scientific articles. *PLoS Med* **4**, e5.
- Ludwig DS, Peterson KE & Gortmaker SL (2001) Relation between consumption of sugar-sweetened drinks and childhood obesity: a prospective, observational analysis. *Lancet* **357**, 505–508.
- Malik V *et al.* (2010) Sugar-sweetened beverages and risk of metabolic syndrome and type 2 diabetes: a meta-analysis. *Diabetes Care* **33**, 2477–2483.
- Malik V *et al.* (2013) Sugar-sweetened beverages and weight gain in children and adults: a systematic review and meta-analysis. *Am J Clin Nutr* **98**, 1084–1102.
- Malik VS, Popkin BM, Bray GA *et al.* (2010) Sugar-sweetened beverages, obesity, type 2 diabetes mellitus, and cardiovascular disease risk. *Circulation* **121**, 1356–1364.
- Malik VS, Schulze MB & Hu FB (2006) Intake of sugar-sweetened beverages and weight gain: a systematic review. *Am J Clin Nutr* **84**, 274–288.
- Ebbeling CB, Feldman HA, Chomitz VR *et al.* (2012) A randomized trial of sugar-sweetened beverages and adolescent body weight. *N Engl J Med* **367**, 1407–1416.
- Pfister K (2016) Leaked: Coca-Cola's worldwide political strategy to kill soda taxes. In [D Leaks, editor]. <https://medium.com/cokeleak2016> (accessed April 2018).
- National Association of Attorneys General (1998) *Multistate Settlement with the Tobacco Industry*. Boston: Tobacco Control Resource Center, Tobacco Products Liability Project.
- Capewell S & Lloyd-Williams F (2018) The role of the food industry in health: lessons from tobacco? *British Medical Bulletin*.
- Stuckler D, Ruskin G & McKee M (2018) Complexity and conflicts of interest statements: a case-study of emails exchanged between Coca-Cola and the principal investigators of the International Study of Childhood Obesity, Lifestyle and the Environment (ISCOLE). *J Public Health Policy* **39**, 49–56.
- Barlow P, Seródio P, Ruskin G *et al.* (2018) Science organisations and Coca-Cola's 'war' with the public health community: insights from an internal industry document. *J Epidemiol Commun Health* **72**, 761–763.
- Sacks G, Swinburn BA, Cameron AJ *et al.* (2018) How food companies influence evidence and opinion – straight from the horse's mouth. *Crit Public Health* **28**, 253–256.
- Coca Cola (2017) Our commitment to transparency. <http://transparency.coca-colacompany.com/> (accessed April 2018).



22. Serôdio PM, McKee M & Stuckler D (2018) Coca-Cola – a model of transparency in research partnerships? A network analysis of Coca-Cola's research funding (2008–2016). *Public Health Nutr* **21**, 1594–1607.
23. Mialon M, Swinburn B & Sacks G (2015) A proposed approach to systematically identify and monitor the corporate political activity of the food industry with respect to public health using publicly available information. *Obes Rev* **16**, 519–530.
24. Morse JM, Barrett M, Mayan M *et al.* (2002) Verification strategies for establishing reliability and validity in qualitative research. *Int J Qual Methods* **1**, 13–22.
25. Ismail A (2016) Sugar tax research funding scandal: investigation exposes sickly Coca-Cola, IRR links. *Biznews*. <http://www.biznews.com/health/2016/12/07/sugar-tax-research-funding/2016> (accessed April 2018).
26. Roussea J (2016) Sugar, the SAIRR and conflicts of interest. *Synapses*. <https://www.synapses.co.za/sugar-sairr-conflicts-interest/> (accessed July 2020).
27. Erickson J, Sadeghirad B, Lytvyn L *et al.* (2017) The scientific basis of guideline recommendations on sugar intake: a systematic review. *Ann Intern Med* **166**, 257–267.
28. Stuckler D, Reeves A, Loopstra R *et al.* (2016) Textual analysis of sugar industry influence on the World Health Organization's 2015 sugars intake guideline. *Bull World Health Organ* **94**, 566.
29. Schillinger D, Tran J, Mangurian C *et al.* (2016) Do sugar-sweetened beverages cause obesity and diabetes? Industry and the manufacture of scientific controversy. *Ann Intern Med* **165**, 895–897.
30. Schillinger D & Kearns C (2017) Guidelines to limit added sugar intake: junk science or junk food? *Ann Intern Med* **166**, 305–306.
31. O'Connor A (2015) Coke's chief scientist, who orchestrated obesity research, is leaving. *New York Times*.
32. Channel 4. Channel 4 dispatches: secrets of Coca-Cola. <http://www.channel4.com/info/press/news/channel-4-dispatches-secrets-of-coca-cola2017> (accessed April 2018).
33. Geneau R, Stuckler D, Stachenko S *et al.* (2011) Raising the priority of preventing chronic disease: a political process. *Lancet* **376**, 1689–1698.
34. Stuckler D & Siegel K (2011) *Sick Societies: Responding to the Global Challenge of Chronic Disease*. Oxford: Oxford University Press.
35. Stuckler D, Robinson HR, McKee M *et al.* (2008) World Health Organization budget and burden of disease: a comparative analysis. *Lancet* **372**, 1563–1569.
36. Stuckler D, Basu S & McKee M (2011) Global health philanthropy and institutional relationships: how should conflicts of interest be addressed? *PLoS Med* **8**, e1001020.
37. Rennie G (2015) How big tobacco gifted campaigns of misdirection and misinformation to the gun lobby. *The Conversation*.
38. Katzmarzyk PT, Barreira TV, Broyles ST *et al.* (2015) Relationship between lifestyle behaviors and obesity in children ages 9–11: results from a 12-country study. *Obesity* **23**, 1696–1702.
39. Kearns CE, Schmidt LA & Glantz SA (2016) Sugar industry and coronary heart disease research: a historical analysis of internal industry documents. *JAMA Intern Med* **76**, 1680–1685.

Box 1. List of names and affiliations (applicable at the time of reference)

David Allison, Professor and Associate Dean, University of Alabama at Birmingham School of Public Health, Rhona Applebaum, Vice President and Chief Health & Science Officer, The Coca-Cola Company
 Edward Archer, Obesity Theorist, University of Alabama at Birmingham, Nutritional Obesity Research Center
 Steven Blair, Professor, University of South Carolina and Vice-President of the Global Energy Balance Network
 Celeste Bottorff, Vice-President of Global Health & Wellbeing Initiatives, The Coca-Cola Company
 Karen Galentine, Director of Development, West Virginia University School of Public Health
 Yoni Freedhoff, Assistant professor of family medicine, University of Ottawa
 Gregory Hand, Founding Dean, West Virginia University School of Public Health and Vice-President of the Global Energy Balance Network
 James Hill, Professor of Pediatrics & Medicine, University of Colorado Anschutz Health and Wellness Center, Director of the Center for Human Nutrition
 Kathleen Jaynes, Director of Development, University of Colorado Anschutz Medical Campus
 Bill Layden, co-founder and partner, FoodMinds, a public relations firm specialising in food and nutrition, consulting for the Global Energy Balance Network
 Stacia Lupberger, registered dietitian and GEBN Project Manager, University of Colorado Anschutz
 Teresa Nass, public relations, West Virginia University School of Public Health
 John Peters, Professor, University of Colorado Anschutz Health and Wellness Center and Vice-President of the Global Energy Balance Network
 Joanna Price, Director of Public Affairs & Communications, The Coca-Cola Company
 Amelia Quint, Director of Communications, Global Energy Balance Network
 Clyde Tuggle, Chief of Public Affairs and Communications Officer, The Coca-Cola Company
 Stacey Stevens, Senior Vice-President, FoodMinds