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REVIEW

Commercial determinants of health: an ethical exploration

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Abstract

Objectives This paper seeks to contribute toward a better understanding of commercial determinants of health by proposing a set of ethical principles that can be used by researchers and other health actors in understanding and addressing Commercial Determinants of Health (CDoH).

Methods The paper is mainly based on a systematic review and qualitative analysis of the existing literature on CDoH and public health ethics frameworks. We conducted searches using selected search engines (Google Scholar and Pubmed). For ethical challenges relating to CDOH, our searches in Google Scholar yielded 17 papers that discussed ethical challenges that affect CDoH. For ethical frameworks relevant for CDOH, our searches in Google Scholar and Pubmed yielded 15 papers that clearly described bioethical models including relevant ethical principles. Additionally, we consulted eight experts working on CDoH. Through these two methods, we were able to identify ethical challenges as well as norms and values related to CDoH that we offer as candidates to comprise a foundational ethics framework for CDoH.

Results Discussing risk factors associated with CDH frequently brings public health into conflict with the interests of industry actors in the food, automobile, beverage, alcohol, ammunition, gaming and tobacco industries including conflict between profit-making and public health. We propose the following candidate ethical principles that can be used in addressing CDoH: moral responsibility, nonmaleficence, social justice and equity, consumer sovereignty, evidence-informed actions, responsiveness, accountability, appropriateness, transparency, beneficence and holism.

Conclusions We hope that this set of guiding principles will generate wider global debate on CDoH and help inform ethical analyses of corporate actions that contribute to ill health and policies aimed at addressing CDoH. These candidate principles can guide researchers and health actors including corporations in addressing CDoH.

Keywords Commercial determinants of health · CDoH · Ethics · Public health · Private sector · Bioethics

Introduction

With every region of the world facing the epidemic of non-communicable diseases (NCDs), researchers are increasingly exploring the role of commercial determinants of health in the increasing chronic disease and disability burden (Maani et al. 2020; Buse et al. 2017; Knai et al. 2018; Lima and Galea 2018). CDoH have been defined as factors that influence human health which stem from the profit motive and include strategies and approaches used by the private sector to promote products and choices that are detrimental to health (Kickbusch et al. 2016). Previous papers focusing on determinants of health have discussed some of the issues that are now discussed in connection with CDoH as "lifestyle factors." In this way, those papers mainly focused on the final consumers of products and services and excluded the commercial agents that drive the consumption or overconsumption of unhealthful products that are linked to the four main behavioral risk factors for NCDs: unhealthy diets, harmful use of alcohol, tobacco use and physical inactivity (Kickbusch et al. 2016; Louise et al. 2015).

While health insurance access and coverage for primary care screening services are essential for preventing and

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controlling NCDs, ill health resulting from the consumption of the many unhealthy commodities is strongly influenced by the availability of such commodities including their prices and advertising campaigns, all of which are directly driven by commercial entities in the interest of furthering profits (Kickbusch et al. 2016). Corporate activities that shape and influence consumers' physical environments include strategies that are employed to determine the availability, promotion and pricing of unhealthy products.

Corporate influence has been described as being exerted through four channels, namely advertising, lobbying, corporate social responsibility and improved supply chains. Advertising is aimed at increasing the uptake of the commodities as part of marketing and enhances the desirability and acceptability of unhealthy commodities. Corporations spend large sums on lobbying governments, including political parties, individual policymakers and other stakeholders, on regulations, issues or positions related to their products. Further, lobbying strategies may be used to fight policies and laws, for example those that require plain cigarette packaging and establishment of a minimum legal drinking age (Ireland et al. 2019; McKee and Stuckler 2018; Meislik 2004). Corporate social responsibility strategies, which include environmental efforts, philanthropy and volunteering, may serve to deflect attention from the harmful impacts and avoid or purify damaged reputations of corporate actors. Corporations often establish foundations or support non-governmental organizations or specific causes that address issues related to the impacts of their products or other areas. Additionally, corporate actors are able to establish extensive supply chains to boost their influence within a particular region or around the globe. All four channels serve to amplify corporate influence and reach, while worsening the health impacts of commercial enterprises (Lima and Galea 2018; Kickbusch et al. 2016; Millar 2013).

As with many areas of focus in public health, the subject of CDoH raises ethical questions and dilemmas underlying research, programs and interventions to address CDoH. Discussing and regulating risk factors associated with CDoH frequently brings public health into conflict with the interests of profit-driven actors, such as those in the food, automobile, beverage, alcohol, ammunition, gaming and tobacco industries (Lima and Galea 2018). An understanding of CDoH requires consideration of complex ethical issues that surround the various CDoH. While the production and distribution of commercial determinants of NCDs are primarily shaped by the corporate actors, they are also shaped by public policies that reflect the prevailing political ideologies of the country.

Recent research on the CDoH demonstrates that governments do not do much to limit the impacts of non-state actors, including private companies, on the health and well-being of individuals and communities (Buse et al. 2017). Generally, governments have given low political priority to interventions aimed at reducing the impacts of CDoH. Examples include the broad opposition to increased taxation or regulation of access to some products such as sugary drinks and fatty foods (Buse et al. 2017). The commercial or private sector often does not appear to be explicitly or prominently included in public health discussions, and this appears to be a serious omission (Freeman and Sindall 2019). In some cases, after some serious social pressure, governments have taken measures aimed at protecting public health and some of these measures have affected the interests of large corporations; prominent examples include laws issued in various countries against tobacco consumption (Crosbie et al. 2018). The increasing focus on CDoH, therefore, serves to expand calls for greater involvement of commercial actors in public health as well as recognition of the negative impacts on health arising from the activities and power of commercial actors.

The subject of CDoH raises questions about the conceptual and ethical dilemmas underlying these determinations, and the field of bioethics can aid as an important tool in deepening our understanding of ethical challenges related to CDoH. The growing interest in CDoH requires both conceptual and analytic tools, and while they play different roles, they are consistent with each other. Corporate actors and public health practitioners currently lack concrete agreed-upon, defensible guidance for decision-making in complex ethical situations. In this paper, we seek to push the field of CDoH by identifying a key set of problematic ethical issues in engaging with CDoH and proposing ethical principles as part of the push toward a systematic approach to evaluate such issues.

Methods

In seeking to develop a list of ethical principles relevant for understanding CDoH, we first explored the existing literature on CDoH that discuss ethical challenges relating to CDoH. We conducted searches in Google Scholar with no limit on date published using key words "commercial determinants of health" and "CDoH." Our searches yielded 76 papers that we reviewed to specifically identify those that discussed ethical challenges related to CDoH. This screening yielded 17 papers that we analyzed qualitatively to identify a list of ethical challenges that affect CDoH.

Regarding ethical principles relevant for CDoH, we explored the existing bioethics literature to examine the core principles and considerations put forth in various bioethical models related to public health, that in our

assessment could be relevant for addressing CDoH. We searched in Google Scholar and Pubmed for the existing bioethics literature that included the following phrases: "ethical issues in public health"; "ethical issues in health systems research"; "ethical issues in health policy"; "bioethical models for public health"; "ethical principles in public health"; and "ethical principles for health systems research." The searches yielded 169 publications; and we screened them to identify those that clearly described bioethical models and those that clearly listed relevant ethical principles. This screening process yielded 15 papers that were used in generating our list of recommended principles.

In addition to the literature searches, we also reached out to eight colleagues working on CDoH, and through our conceptual explorations and discussions with these experts, we sought to identify particular areas of convergence for norms and values related to CDoH. Through the literature review and expert consultations, we generated a list of ethical challenges and norms as candidates to comprise a foundational ethics framework that can be used in scrutinizing actions by main actors in CDoH.

Results

Based on our first search, we identified a spectrum of ethical challenges and potential dilemmas related to CDoH (Table 1). These included conflict between profit-making and public health, harm causation caused by unhealthy products, power imbalance between corporations and consumers, informed versus constrained choices as well as the use of inappropriate marketing tactics by industry. The ethical challenges highlighted in Table 1 are not exhaustive, but serve to demonstrate the foundational issues that researchers, public health experts and policy makers have to grapple with as they seek to understand and address CDoH. This list further strengthened our case for developing ethics guidance to help negotiate such challenges both in terms of intervention development and in terms of policy enactment.

In order to understand and address the moral challenges around CDoH, one ought to be guided by relevant ethical principles, including the traditional principles of beneficence, nonmaleficence, justice and respect for persons (Beauchamp and Childress 2001). In our quest to generate a list of candidate ethical principles for addressing CDoH, we were mainly guided by the three main concerns of public health policy development, namely prevention, accountability and social justice (Powers et al. 2006). We also were guided by the core mission of public health of protecting and promoting the health of populations by identifying risk factors for disease, disability, injury and death through implementation of strategies aimed at reducing individual and group exposure to these risk factors (Breslow 2002). We reviewed several public health frameworks in the 15 papers we identified, including Kass (2001), Upshur (2002), Thompson et al. (2006), Swain et al. (2008), Jaffe and Hope (2010), Nuffield Council on Bioethics (2007), Petrini (2007), Petrini and Gainotti (2008) and Kenny et al. (2010). We also reviewed the health systems framework proposed by Krubiner and Hyder (2014) and found many of its principles to be relevant for understanding CDoH issues due to the broad focus on the health system as a whole, which is made of different and yet interrelated components (holism). As a result, we made a decision to use this framework for our analysis.

In Table 2, we present a modified version of Krubiner and Hyder (2014) framework that we adapted to address CDoH. We included new principles and revised existing definitions in connection with the proposed application to CDoH. Additionally, we left out ethical considerations that we believe are not relevant for addressing CDoH and added new candidate principles from the other public health frameworks noted above. The candidate principles that we suggest below apply to all major players in CDoH including the health system as well as industry actors and include moral responsibility, nonmaleficence, social justice and equity, consumer sovereignty, evidence-informed actions, responsiveness, accountability, appropriateness, transparency, beneficence and holism.

1. *Moral responsibility* Questions are often asked in the area of business ethics around moral responsibility of corporations for unhealthy practices. There is growing consensus that corporations like other actors can be viewed as ethical agents because they can be thought of as rational agents that make decisions in shareholders' pursuit of profits; and that corporations have a moral obligation to conduct business in a way that reduces poverty, racial inequality, other economic and social inequalities, as well as threats to the environment (Scharding 2019; Bevan et al. 2019; Lenk 2019). For example, corporations have moral responsibilities to avoid pollution, discrimination of consumers and ill treatment of workers. These obligations may require more than obeying relevant laws. There are some cases of consumers who have successfully sued corporate actors for harm to their health (Shiva 2019; Paull 2019).
2. *Nonmaleficence* Corporate actors have an obligation to avoid harm on users and third parties. The principle of nonmaleficence refers to the obligation not to inflict harm on others (Beauchamp and Childress 2001). Apart from not inflicting harm, one ought to prevent or remove harm, for example

Table 1 Ethical challenges relating to commercial determinants of health

Ethical challenge	Brief description of the ethical challenge as described by sources (references provided)
Conflict between profit-making and health	Efforts to prevent diseases that may be caused by a specific product, go against the interests of the company's owners and business executives who are powerful members of society. In the most cases, the economic resources and annual profit of major multinational companies are vast, compared to the public finances available to implement strategies aimed at health-protecting and promoting policies and interventions. This causes a direct confrontation between public health goals and profit maximization (Kickbusch et al. 2016; Buse et al. 2017; Lima and Galea 2018)
Harm causation	Risk factors associated with the majority of NCDs are associated with the production, distribution and consumption of commercially manufactured food, beverages and tobacco. Particularly for food, there are copious ultra-processed products that contain excessive sugar, salt and trans fats which are all known to be harmful to health. Alcohol and tobacco have been labeled as sin products due to their direct connection to ill health, increased risk of death and harmful impact on societies. This reality goes against the ethical principle of avoidance of harm on users and third parties. Harm is at both individual and population level (Millar 2013; Kickbusch et al. 2016; Ireland et al. 2019)
Power imbalance	There is a significant power imbalance between citizens and corporate actors that have resources far in excess of national or non-governmental counterparts and are able to influence population health and well-being at the supranational, national, community and individual levels. This imbalance is based not only on financial resources but also on political and social influence (Lima and Galea 2018; McKee and Stuckler 2018; Freeman and Sindall 2019)
Informed versus constrained choices	The poor face limited consumption choices due to their limited financial power and are forced to consume harmful products that are often sold at lower prices compared to less harmful ones. When large companies flood the markets with unhealthy products, they outcompete producers of healthy products. This reflects the vulnerability of consumers to corporations that determine pricing as well as the contents of the harmful products. Principles of economics indicate that individual consumers aim to make informed choices about products and services to buy with limited resources. However, choices are further constrained for some consumers in the case of, for instance, food deserts or when healthy foods are generally not affordable or accessible (Millar 2013)
Industry tactics	Corporate actors use various "negative" techniques and strategies to market and sell their products, such as emotional appeals, exaggerations, omissions and special tactics to target children. Corporations also are able to exert robust power through mass media. Through media channels, corporations can influence the public's understanding of, for example, obesity, diabetes and heart disease, since they can explain these conditions as being determined by individual or societal choices and avoid responsibility. They are able to create confusion and doubt about causation even when there is scientific agreement. For example, the food industry has been accused of misleading consumers through lack of disclosure of harmful content (Lima and Galea 2018; Meislik 2004; McKee and Stuckler 2018)
Conflict of interest	Giant corporations that produce unhealthy products have been known to partner with sports bodies, and yet sport is often presented as a way for people to lead healthier and active lives. Companies that produce alcohol, sugar-sweetened beverages and fatty foods often enter into sponsorship deals and market their products through professional sports leagues, in competitions and events across the world. This also has potential to influence young people as they dominate sports (Knai et al. 2018; Stuckler et al. 2018; Ireland et al. 2019)

the harm associated with their products. The principle of nonmaleficence also requires prioritizing public health discourse toward designing and implementing feasible interventions aimed at addressing CDoH to improve health outcomes. All actors ought to prioritize actions that are aimed at minimizing or removing potential harm from products. Sirgy and Lee (2008) emphasize the concept of well-being marketing which is grounded in the duty of beneficence and nonmaleficence, and firms give attention to the preservation of safety and well-being of the consumers as well as companies' workers (Sirgy and Lee 2008).

3. *Social justice and equity* International human rights provide a useful framework for efforts to identify and respond to issues concerning CDoH. Foremost, the right to health is an inclusive right that extends beyond access to health care to include a range of factors, including safe environments (Backman et al. 2008). A human rights-based approach to addressing CDoH means that in addition to sovereign countries and national policymakers, corporations are duty-bearers against whom individuals as rights-bearers may bring claims. Corporate actors should pursue strategies to reduce health inequalities, by taking steps to equalize individual life opportunities, such as investments in basic education, affordable

Table 2 Candidate ethical principles for understanding and addressing Commercial Determinants of Health

Ethical consideration	Definition	Proposed application	References
1. Moral responsibility	Corporate actors bear moral responsibility for the harms that result from the products and service they produce and should be held responsible for actions that promote ill health	The health system should put in place measures to ensure that there is recourse for individuals who are harmed as a result of products or services produced by corporates	Swain et al. (2008), Beauchamp and Childress (2001)
2. Nonmaleficence	Corporate actors should minimize potential harm to individuals and populations from their products. Priority should be given to designing and implementing feasible interventions aimed at addressing CDoH in connection with improved health outcomes	Minimizing harm requires demonstrable efforts on the part of the health system and corporate actors, to minimize consumption and exposure of individuals and communities to products and services that are detrimental to health, especially for the vulnerable	Upshur (2002), Swain et al. (2008), Jaffe and Hope (2010), Nuffield Council on Bioethics (2007)
3. Social justice and equity	Corporations must support fair allocation of resources as primary social goods, as well as fair distribution of the benefits and burdens associated with its products. To minimize harmful impacts, efforts should be put into protecting vulnerable groups and supporting the empowerment of disadvantaged groups	There must be a focus on fair allocation of health-related resources. Initiatives should not exclude some groups while benefiting others	Kenny et al. (2010), Kass (2001), Swain et al. (2008), Krubiner and Hyder (2014), Nuffield Council on Bioethics (2007), Petrini and Gainotti (2008), Petrini (2007)
4. Consumer sovereignty	Individuals and communities have the right to be informed about potential harms that are associated with exposure to or consumption of a particular commodity	Measures should be in place to ensure that consumers are provided with adequate information on products	Kass (2001), Swain et al. (2008), Krubiner and Hyder (2014), Jaffe and Hope (2010), Petrini and Gainotti (2008), Petrini (2007)
5. Evidence-informed actions	Corporate actors have an obligation to produce knowledge and engage in evidence-based decision-making to ensure investment in effective health promotion strategies.	Corporate actors must make a commitment to generate information about different strategies through research and have processes in place to translate information into commodities and strategies based on existing evidence.	Kass (2001), Swain et al. (2008), Krubiner and Hyder (2014), Jaffe and Hope (2010), Petrini and Gainotti (2008), Petrini (2007), Nuffield Council on Bioethics (2007)
6. Responsiveness	The health needs of diverse populations are constantly changing. Corporations must be responsive to dynamic needs of populations and be equipped to readily adapt their operations in line with such needs	The health system as well as corporate actors must demonstrate timely response to the changing contexts of the population. They should put in place mechanisms to ensure they can respond timely and prevent against serious health threats	Krubiner and Hyder (2014), Kass (2001)
7. Accountability	Corporate actors should be held accountable for the plans, behaviors and foreseeable results of commitments that they willingly pursue in their pursuit for maximizing profits	Mechanisms should be put in place to ensure corporate actors are accountable to society for their actions	Kass (2001), Swain et al. (2008), Krubiner and Hyder (2014), Jaffe and Hope (2010), Petrini and Gainotti (2008), Petrini (2007)
8. Appropriateness	Corporate actors should produce and market commodities; and adopt actions and strategies that are reasonable and socially and culturally acceptable	Strategies should be in place to ensure that commodities, actions and strategies are reasonable and socially and culturally acceptable	Thompson et al. (2006), Nuffield Council on Bioethics (2007)

Table 2 (continued)

Ethical consideration	Definition	Proposed application	References
9. Transparency	Corporate actions and rationale for decisions should be clearly communicated to the public, with opportunities for input from various interest groups	All decisions should be defensible and open to scrutiny, as well as actively communicated in advance to stakeholders. Decision-making about activities/strategies should be reflective of stakeholder agreement and feedback	Kenny et al. (2010), Upshur (2002), Thompson et al. (2006), Krubiner and Hyder (2014)
10. Beneficence	Corporations should implement activities and strategies aimed at benefiting society. Most of these activities are typically implemented under the corporate social responsibility programs	Corporations that produce unhealthy products should plan to provide services that benefit society. Governments should also adopt measures aimed at promoting and recognizing such benefits	Kass 2001; Beauchamp and Childress 2001; Swain et al. 2008; Nuffield Council on Bioethics 2007
11. Holism	CDoH activities must be perceived and evaluated as part of the whole integrated network of components (actors, inputs, processes, sub-systems) comprising the public health system. Holism also requires collaboration of various actors within the system as well as with other sectors	Evaluate benefits and harms associated with a particular strategy in a holistic manner. Mobilize partnerships to identify and address health problems, and promote inclusiveness	Thompson et al. (2006), Swain et al. (2008), Krubiner and Hyder (2014), Kenny et al. (2010)

Based on health systems ethics framework proposed by Krubiner and Hyder (2014)

housing, income security and other anti-poverty measures (Ruger 2004). The Kass (2001) ethics model asserts that programs must be implemented fairly, requiring that unequal distributions must be justified by evidence of differential need, expected benefit, or to remedy past injustice. Baum et al. (2007) address this need to strive for equitable distribution of benefits and burdens and demand sufficient justification for unequal distributions.

4. *Consumer sovereignty* Consumers have a right to be informed about product quality and pricing, including the negative consequences associated with the product. Consumer sovereignty refers to the idea that consumers engage in "rational decision-making" and using their limited financial resources to exercise their economic votes wisely (Sirgy and Lee 2008). Some business laws, including antitrust laws and consumer protection laws, are designed to ensure that consumers are well informed about their market choices. However, in the past, corporations avoided declaring harmful aspects of their products and ignored the health impacts of their products. Sirgy and Lee (2008) discuss firms that engage in promotion decisions guided by a "well-being" philosophy. They argue that such firms treat clients not only as means but also as ends in themselves, which in turn leads to higher levels of customer satisfaction, trust and repeat purchases.
5. *Evidence-informed actions* The challenges in primary care prevention of NCDs have received relatively little attention from the major players in public health, namely international organizations, national governments and civil society. Some existing health systems frameworks identify an obligation to produce knowledge and engage in evidence-based decision-making (Krubiner and Hyder 2014). Corporate actors have an obligation to support the production of knowledge and use the evidence in decision-making to ensure investments in effective health promotion strategies. Evidence concerning interventions to address a particular product can demonstrate how likely a particular intervention is to succeed. It also provides useful estimates on the size of benefits and effects and highlights potential unintended negative health effects before an intervention is considered for large-scale implementation (Petrini and Gainotti 2008; Swain et al. 2008).
6. *Responsiveness* Public health threats need to be addressed expeditiously and health actors must have the ability to adapt and respond to the evolving needs of the population. Responsive actors can revisit and revise decisions when new information becomes available. Responsive actors also need to set up a formal mechanism that stakeholders can use in expressing concerns around implementation of strategies. Additionally, corporate actors must

demonstrate respect for communities and their dignity by adopting strategies and products that those communities express as priority needs (Upshur 2002). Health actors must also constantly adapt to new tactics used by industry to market and sell their products.

7. *Accountability* Accountability is an element of respect for persons that supports the idea of consumer sovereignty. It is for this reason that we assert accountability to consumers and society in general as a central guiding ethical norm for CDoH (Kass 2001; Krubiner and Hyder 2014). Accountability is needed to prioritize and protect public health nationally and globally. Societies need to develop mechanisms to ensure that corporations can be held accountable and that decisions reached through collaboration and consensus are implemented. Accountability can be formal through government and regulatory mechanisms, but also informal through societal mechanisms. Transparency is instrumental to accountability, and dissemination of information is crucial for effective accountability mechanisms.
8. *Appropriateness* Corporate actors ought to consider the appropriateness of techniques that they use in marketing, as they seek to maximize consumption of their commodities as some of these techniques may not be appropriate for certain groups of consumers. Negative strategies that have been documented include highly emotional appeals, exaggerations, omissions and provocative tactics. Some corporations target children as consumers of their unhealthy products (Reuter and Ueberbacher 2019). Some of the strategies that corporate actors adopt may go against cultural or religious expectations leading to friction with communities. Ensuring appropriateness and acceptability of products and programs denotes a view of humans as beneficiaries deserving of appropriate treatment and care, and not simply consumers of products.
9. *Transparency* The importance of transparency and public engagement is widely recognized by both ethicists and public health experts (Daniels 2000; Upshur 2002; Baum et al. 2007). Transparency enables active consideration and participation of stakeholders in their own health and lends their voices in decision-making for health while at the same time demonstrating free-flow of information. We propose that transparency is critical as guiding a norm for corporate actions, to ensure openness as well as decisions that have considered wider inputs. It is crucial for corporations and other health actors to be transparent as certain actions or events can have wide-reaching direct or indirect impacts on consumers and investors.
10. *Beneficence* The principle of beneficence refers to a group of duties that includes an imperative to assist consumers. The principle judges the ethical nature of an action based on the notion that one ought to promote good. Sirgy and Lee (2008) opine that company decisions, guided by the well-being principle, focus on developing and marketing products that are beneficial to consumers with little or no negative externalities. Corporate actors should prioritize well-being by providing consumers with goods and services that not only help to enhance their overall quality of life but also do it safely—to the consumers themselves, the public and the environment through appropriate business citizenship behaviors such as corporate social philanthropy, community volunteering and socially responsible business practices (Sirgy and Lee 2008).

Holism and collaboration Attention to holism requires taking a broad perspective when evaluating the merit of a particular strategy. From a moral perspective, failure to account for impacts of a particular intervention in one sector on other sectors or components of public health systems or society in general could lead to damaging outcomes. Corporate actors need to consider the impacts of a strategies or activities on the lives of individual consumers and populations. Corporations ought to select strategies that have net positive effects on local environments, and adopt practices after giving due regard to issues such as equity and social mobilization, and enabling health-maintaining behaviors (Krubiner and Hyder 2014). Inter- and intra-sectoral collaborations are also essential when considering as well as when implementing strategies as part of holism. Collaboration can facilitate corporate transparency, accountability and stakeholder engagement (Knai et al. 2018).

Case study Having proposed some ethical principles that can assist in addressing CDoH, we proceed to demonstrate the interplay of these ethical principles by applying some of them to a case study based on recent work undertaken by Esser and Jernigan (2015) on strategies employed by Diageo, a firm involved in production of alcohol in India, a low middle-income country (LMIC) setting that is experiencing serious problems related to increasing alcohol consumption. Alcohol consumption increased significantly during the twentieth century to become an important contributor to national revenue. During the 1960s and 1970s, there was less stigma associated with alcohol, and with the liberalization of the economy in the 1990s, India allowed the global alcohol industry players to enter its market (Esser and Jernigan 2015).

In an effort to address the growing problem of alcohol consumption and related challenges, India put in place some control measures including a national blood alcohol concentration limit of 0.03 grams per deciliter for drivers. Individual states put various measures including bans on the production or consumption of specific types of alcohol (Esser and Jernigan 2015). These measures were, however, accompanied by low level of enforcement. Esser and Jernigan (2015) noted that in response to government actions, Diageo created a corporate social responsibility program aimed at building partnerships with government leaders and public health authorities as well as increasing their political influence. The programs aimed at preventing excessive drinking and reducing drinking and driving, a leading cause of motor vehicle accidents in India, and included components such as funding advertising campaigns to raise awareness of the risks of binge drinking and supporting the medical profession in identifying and helping problem drinkers. Diageo also partnered with public and private partners to reduce drunk driving through education initiatives, free rides and enforcement campaigns. Additionally, Diageo promoted responsible drinking through the DRINKiQ online resource which offered online courses aimed at increasing public awareness of the effects of alcohol.

Esser and Jernigan (2015) argued that the programs included strategies with less evidence of effectiveness for reducing drunk driving, and Diageo did not adopt evidence-based interventions. They opined that the alcohol industries were often in support of less effective interventions to reduce harmful drinking as a way of protecting their market and profits. These observations by Esser and Jernigan (2015) go against our proposed candidate ethical principles of nonmaleficence, transparency, evidence-informed actions and responsiveness. The observations by the authors suggest that Diageo did not base its program on research findings, neither did it consult stakeholders in an open and transparent manner. As such, the program would not do much in terms of minimizing harm.

Esser and Jernigan 2015 also pointed out that the effectiveness of the distribution of breath alcohol analyzers in reducing drunk driving is questionable in countries "with a perception of high levels of corruption" such as India. Further, they opined that, for awareness-raising initiatives to be effective in reducing drunk driving, there was a need for adequate audience exposure and these should be implemented in addition to other prevention interventions. They also pointed out that they did not have information that they could use in evaluating Diageo's campaigns. All these observations defeated the ethical principles of collaboration, holism, evidence-informed action, beneficence, transparency and public engagement.

Diageo's drunk-driving programs did not seem to promote the public health prevention strategies that have proven to be highly effective including universal sobriety checkpoints and random breath testing with penalties for those found to have higher blood alcohol concentrations. Esser and Jernigan (2015) noted that DRINKiQ's effectiveness was not evaluated as is common with programs funded by the alcohol industry, Regarding Diageo's stated hope of preventing alcohol abuse by women in a developing economy, Esser and Jernigan (2015) noted that as income rises, alcohol consumption actually increases, and much of it can be potentially attributed to the work of alcohol companies.

Discussion

The candidate ethical principles that we have recommended above serve as a provisional list of relevant considerations that can be used to guide policies and actions with respect to CDoH. The list is intended to serve as a first attempt to identify and define the ethical considerations that are relevant for examining CDoH. Listing ethical considerations for CDoH also raises the question of hierarchical order: Should some principles be considered more important compared to the others? Our provisional framework does not assign greater or lesser weight to any single principle, as we are of the opinion that the relative importance of each will vary depending on intervention being considered as well as the context in which the intervention is to be introduced. This is similar to various ethical frameworks that do not create a hierarchical order but rather a balancing of principles (Beauchamp and Childress 2001; Baum et al. 2007).

In addition to public decision-making and health policy circles, this framework can also assist corporate actors in addressing ethical challenges that may arise in relation to their products. Corporations can use the same principles in evaluating their actions and strategies before and after implementation. The above case study provides insight into the global alcohol industry's strategies for growth in emerging markets and the role of CDoH. It also increases awareness of the potential discordance between industry practices and ethical principles and sheds light on ways that public health professionals can help to address CDoH.

There could be instances when various principles conflict. As we continue to test this framework by applying it to various CDoH, we hope to produce additional guidance that can assist in balancing competing considerations for a given situation. As noted, many of the ethical principles are closely interwoven and related. The ethical principles must therefore be used in a way that takes complexity into consideration. The overall coherence of a particular

intervention with the framework can support its adoption, even if it does not perfectly fit with every ethical consideration.

In addition to aiding policy and practice, such principles can serve as a research tool to help guide research, e.g., by helping the development of hypotheses about the relative influence of these determinants and their interactions (Maani et al. 2020). They also can help to shape considerations of policy options and to identify potential points for interventions. Further, the proposed ethical principles can facilitate interaction and communication between various stakeholders, as they provide a reference point for dialogue and expectations. The candidate ethical principles may be useful to groups currently working on developing models of CDoH. Ultimately, we hope that our proposed ethical principles will help transform efforts to regulate corporate conduct as a feasible area for policy intervention.

In the future, we propose to conduct pilot studies for the impact of our proposed ethical principles in the real world of CDoH. This provisional framework is an important step in outlining the tools that we need in studying and understanding CDoH from a moral perspective. We will continue global dialogue and seek feedback as we continue to develop actionable recommendations for testing the application of this framework for evaluation of CDoH policies and initiatives in the real world. We will also provide case studies that shall be aimed at highlighting specific examples of CDoH interventions.

We recognize that there is ongoing academic discourse on the broad scope of CDoH itself and hope that this framework will contribute meaningfully toward those discussions (Maani et al. 2020; Buse et al. 2017; Ireland et al. 2019). Finally, we thank Krubiner and Hyder (2014) for their original framework and hope that this adaptation to CDoH fulfills their goals to "generate a wider global debate on this issue and help inform a stronger ethical analysis of health systems decisions and policies" (Krubiner and Hyder 2014).

Conclusion

There is growing global interest in CDoH and hence the need for concerted thinking around the ethical issues related to CDoH. In proposing a set of candidate ethical principles in connection with CDoH, we hope to generate international discourse on how the strategies and actions of corporate entities should be evaluated from a moral stance. We remain convinced that an ethics framework for CDoH, particularly in LMICs or areas that may have weak capacities for regulating and directing the actions of corporate entities due to their immense influence, may help. We are hopeful that this set of guiding ethical principles will inform ethical analyses of corporate actions that contribute to ill health as well as policies aimed at addressing CDoH. The principles will promote global debate on CDoH and will guide researchers, policy makers and health actors including corporations and civil society in addressing CDoH.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict interest.

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