

## Non-Communicable Diseases 4



# Profits and pandemics: prevention of harmful effects of tobacco, alcohol, and ultra-processed food and drink industries

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The 2011 UN high-level meeting on non-communicable diseases (NCDs) called for multisectoral action including with the private sector and industry. However, through the sale and promotion of tobacco, alcohol, and ultra-processed food and drink (unhealthy commodities), transnational corporations are major drivers of global epidemics of NCDs. What role then should these industries have in NCD prevention and control? We emphasise the rise in sales of these unhealthy commodities in low-income and middle-income countries, and consider the common strategies that the transnational corporations use to undermine NCD prevention and control. We assess the effectiveness of self-regulation, public-private partnerships, and public regulation models of interaction with these industries and conclude that unhealthy commodity industries should have no role in the formation of national or international NCD policy. Despite the common reliance on industry self-regulation and public-private partnerships, there is no evidence of their effectiveness or safety. Public regulation and market intervention are the only evidence-based mechanisms to prevent harm caused by the unhealthy commodity industries.

### Introduction

At the 2011 UN high-level meeting on non-communicable diseases (NCDs), the political declaration presented the case for prevention of NCDs in low-income and middle-income countries.<sup>1</sup> Participants agreed that no one factor could fully address the burden of NCDs and called for collaboration with “non-health actors and key stakeholders, where appropriate, including the private sector and civil society, in collaborative partnerships to promote health and to reduce non-communicable disease risk factors”.<sup>1</sup> To achieve the agreed goal to reduce premature mortality due to NCDs of 25% by 2025<sup>2</sup> will need a massive scale-up of concerted action to reduce consumption of unhealthy commodities—mainly tobacco, alcohol, and ultra-processed food and drink products (panel 1). National governments, non-governmental organisations, academics, and civil society need to consider what the appropriate role of the private sector will be in NCD prevention and control. The debate is most contentious about the unhealthy commodities industries, which are major drivers of NCD epidemics worldwide. What role should these industries have in NCD prevention and control? What type of interaction—defined here as a reciprocal action or influence—with these industries promotes health and protects the public from conflicts of interest? The global health community has different views about how to proceed, which range from collaborative partnerships to outright criticism.

Although there is now consensus that the tobacco industry's conflict of interest with public health is irreconcilable, whether the competing interests of the alcohol, food, and drink industries are similarly irreconcilable is debated. This lack of clarity stems partly

from the absence of a coherent and agreed upon framework for interaction; the normalisation of unhealthy commodities in many countries;<sup>10</sup> the financial and institutional relations many public health researchers,<sup>11</sup> non-governmental organisations, and national and international health agencies have with these companies; and little appreciation that the purpose of corporations is to maximise profits.<sup>12</sup> These conflicts are largely unstudied in public health. The science of the effect of corporate behaviour on health is an emerging area of public

### Key messages

- Transnational corporations are major drivers of non-communicable disease epidemics and profit from increased consumption of tobacco, alcohol, and ultra-processed food and drink (so-called unhealthy commodities)
- Alcohol and ultra-processed food and drink industries use similar strategies to the tobacco industry to undermine effective public health policies and programmes
- Unhealthy commodity industries should have no role in the formation of national or international policy for non-communicable disease policy
- Despite the common reliance on industry self-regulation and public-private partnerships to improve public health, there is no evidence to support their effectiveness or safety
- In view of the present and predicted scale of non-communicable disease epidemics, the only evidence-based mechanisms that can prevent harm caused by unhealthy commodity industries are public regulation and market intervention

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**Panel 1: Ultra-processed products**

Ultra-processed products are made from processed substances extracted or refined from whole foods—eg, oils, hydrogenated oils and fats, flours and starches, variants of sugar, and cheap parts or remnants of animal foods—with little or no whole foods. Products include burgers, frozen pizza and pasta dishes, nuggets and sticks, crisps, biscuits, confectionery, cereal bars, carbonated and other sugared drinks, and various snack products.

Most are made, advertised, and sold by large or transnational corporations and are very durable, palatable, and ready to consume,<sup>3-6</sup> which is an enormous commercial advantage over fresh and perishable whole or minimally processed foods. Consequently, their production and consumption is rising quickly worldwide.<sup>3,7</sup> In the global north—ie, North America and Europe—ultra-processed products have largely replaced food systems and dietary patterns based on fresh and minimally processed food and culinary ingredients that have less fat, sugar, and salt. In the global south—ie, Asia, Africa, and Latin America—ultra-processed products are displacing established dietary patterns, which are more suitable socially and environmentally.

Ultra-processed products are typically energy dense; have a high glycaemic load; are low in dietary fibre, micronutrients, and phytochemicals; and are high in unhealthy types of dietary fat, free sugars, and sodium.<sup>3,8</sup> When consumed in small amounts and with other healthy sources of calories, ultra-processed products are harmless; however, intense palatability (achieved by high content fat, sugar, salt, and cosmetic and other additives), omnipresence, and sophisticated and aggressive marketing strategies (such as reduced price for super-size servings), all make modest consumption of ultra-processed products unlikely and displacement of fresh or minimally processed foods very likely. These factors also make ultra-processed products liable to harm endogenous satiety mechanisms and so promote energy overconsumption and thus obesity.<sup>8,9</sup>

health that needs to be developed substantially; it studies the health risks of transnational corporations and the distribution of the unhealthy commodities that they make and market. The term industrial epidemic<sup>13,14</sup> has been used to describe health harms associated with various goods including tobacco,<sup>9,15</sup> alcohol,<sup>16,17</sup> vinyl chloride,<sup>18</sup> asbestos,<sup>19</sup> cars,<sup>20</sup> and the food and drink industries.<sup>14</sup> In industrial epidemics, the vectors of spread are not biological agents, but transnational corporations. Unlike infectious disease epidemics, however, these corporate disease vectors implement sophisticated campaigns to undermine public health interventions. To minimise the harmful effects of unhealthy commodity industries on NCD prevention, we call for a substantially scaled up response from governments, public health organisations, and civil society to regulate the harmful activities of these industries.

**Unhealthy commodities in low-income and middle-income countries**

In 2010, tobacco was estimated to have been responsible for 6.3 million deaths and alcohol accounted for 4.9 million deaths. Together tobacco and alcohol—the second and third leading risk factors for the global disease burden, respectively—cause nearly 12% of global disability-adjusted life-years.<sup>21</sup> The consumption of energy-dense ultra-processed foods, unlike low-energy foods such as fruits and vegetables, promotes obesity.<sup>22</sup> Similarly, consumption of sugar-sweetened beverages is associated with increased rates of obesity and diabetes,<sup>23</sup> childhood obesity,<sup>24,25</sup> long-term weight gain, and cardiovascular disease.<sup>26,27</sup> In addition to the deaths caused by tobacco and alcohol, more than 18 million deaths every year are caused by high blood pressure (9.4 million), high body-mass index (3.4 million), high fasting blood glucose (3.4 million), and high total cholesterol (2.0 million),<sup>21</sup> much of which could be attributed to the consumption of ultra-processed foods and drinks (panel 1). Almost all growth in the foreseeable future in profits from the sale of these unhealthy commodities will be in low-income and middle-income countries.

Saturation of markets in high-income countries<sup>28</sup> and the high global average of income that people spend on food (20%) has caused the alcohol and ultra-processed food and drink industries to rapidly penetrate emerging global markets, as the tobacco industry has done. Transnational corporations are major drivers of the acceleration of the nutrition transition—ie, from traditional diets of whole or minimally processed foods to highly processed foods and drinks. The substantial growth of ultra-processed products<sup>3,7,29</sup> has paralleled and contributed to the increase in obesity, diabetes, and other diet-related chronic diseases,<sup>30</sup> especially in low-income and middle-income countries.<sup>23,31</sup> To assess existing and future trends in unhealthy commodities, activities of the major corporations need to be monitored. For low-income and middle-income countries, we used official market sales data because survey data for the consumption of unhealthy commodities, measurable across countries and over time, are scarce. Additionally, market data are not subject to recall biases, which complicate the recording of individuals' consumption of unhealthy commodities. We used market data for commodity sales from the EuroMonitor Passport Global Market Information database 2011 edition,<sup>32</sup> covering up to 80 countries between 1997 and 2010 (panel 2).

Tobacco, alcohol, and several categories of packaged food—a good proxy for ultra-processed food and drink products—are rising most rapidly in low-income and middle-income countries (table 1). Little, if any, growth is expected in high-income countries in the next 5 years because of the economic recession (figure 1), strict tobacco-control policies, and saturation of established markets with ultra-processed food and drink products.<sup>28,33</sup>

The frequently used term competitive market suggests a wide variety of traders; however, the most powerful corporate sectors of the world's food system are increasingly concentrated to the point of oligopoly. For example, in the USA, the ten largest food companies control more than half of all food sales.<sup>34</sup> Worldwide, this proportion is about 15% and is rising rapidly. More than half of global soft drinks are produced by large transnational companies, mainly Coca-Cola and PepsiCo. 75% of world food sales are of processed foods, whose largest manufacturers control more than a third of the global market.<sup>32,34–36</sup> The industry body International Center for Alcohol Policies (ICAP) states that the branded alcohol market accounted for 38% of global alcohol consumption in 2005, and the top ten producers accounted for 66% of the global market share for beer, 59% for spirits, and 16% for wine.<sup>18,37</sup> Leading alcohol transnationals, Diageo, Pernod Ricard, and SAB Miller, all claim growth in sales in low-income and middle-income countries in recent annual reports.<sup>38–40</sup> For example, SAB Miller reported earnings growth in 2011 of 33% for Asia, 20% for Africa, and 11% for Latin America compared with 4% for Europe. The aim of their African division is for a two-times increase in the opaque (millet) beer market and a six-times increase in the affordable beer market.<sup>41</sup>

Table 2 lists the top five companies responsible for sales of packaged foods in Brazil, China, India, Mexico, South Africa, Russia, and the USA. With the exception of China, there is a high degree of transnational penetration into the food systems of low-income and middle-income countries already similar to that in the USA. For example, Kraft Foods, the main seller of packaged food in the USA, is responsible for about 6·8% of all sales in the USA, and Nestlé already has 8·4% of all packaged food sales in Brazil. An even higher degree of concentration is evident for sales of specific categories of ultra-processed products.

To understand the causes of illness in populations, we need to assess both individual-level and population-level factors.<sup>43</sup> Both supply and demand factors contribute to the rising population consumption of unhealthy commodities.<sup>7</sup> On the demand side, as economies grow and purchasing power of people strengthens, unhealthy commodities become more affordable; as people have less time, convenience of these products becomes important, which enhances consumption. Economic growth seems to be strongly correlated with rising consumption of unhealthy commodities, but only when markets are highly integrated, and therefore enable the large-scale entry of transnational corporations into low-income and middle-income countries.<sup>42</sup> Additionally, the systematic and aggressive mass-marketing campaigns of alcohol, ultra-processed foods and drink, and tobacco contribute to demand. A contributory factor to supply is economic policy and trade agreements that open markets to foreign investment, and provide entry for

#### Panel 2: EuroMonitor Passport Global Market Information Database

Data include per-person volumes for packaged foods—including snacks, snack bars, ice cream, oils and fats, chilled processed food, dried processed food, canned food, soft drinks, hot drinks, and ready-to-eat meals—which are all ultra-processed products, except for oils and fats, which are culinary ingredients. Industry data for retail sales of tobacco were also obtained from EuroMonitor. These official market data, as reported by governments, have similar limitations to other frequently used macroeconomic data such as gross domestic product and trade statistics. Additionally, these data capture only sales volumes, which are imperfect measures of consumption because they do not include food and drink products produced at home or that are wasted, or smuggled alcohol and tobacco.

	Low-income and middle-income countries	High-income countries
Packaged food	1·9%	0·4%
Soft drinks	5·2%	2·4%
Processed food	2·0%	1·4%
Oil and fats	1·6%	–0·1%
Snacks and snack bars	2·4%	2·0%
Alcohol	2·8%	1·1%
Tobacco*	2·0%	0·1%

Adapted with permission from reference 7.\* Tobacco data are in retail sales per person.

**Table 1: Annual growth rate (%) of volume consumption per person in low-income and middle-income countries, and high-income countries between 1997 and 2009**

tobacco, alcohol, and ultra-processed food and drink corporations through takeovers of domestic companies. For example, free-trade agreements with the USA are associated with high consumption of fizzy drinks in several countries.<sup>37</sup> Deregulation also contributes to market spread of unhealthy commodities because it constrains the ability of governments to introduce fiscal policies to limit their consumption.<sup>44,45</sup> These supply and demand drivers are similar in the tobacco, alcohol, and ultra-processed food and beverage industries and it is therefore not surprising that these unhealthy commodities stimulate complementary epidemics. Nationally, there is a strong correlation between tobacco, alcohol, and processed food and drink product sales (figure 2). Where tobacco markets are the greatest, so too are markets for alcohol and for processed food products. The relation between tobacco, alcohol, and ultra-processed food and beverage corporations show the failure of public health policy makers and professionals to respond to the effect of unhealthy commodities on global health, and shows how these industries undermine public health.

### Strategies by industry to undermine effective public health policies and programmes

Industry documents released because of tobacco<sup>46</sup> and asbestos<sup>20</sup> litigation show how these industries affect public health legislation and avoid regulation with both hard power (ie, building financial and institutional relations) and soft power (ie, influence of culture, ideas, and cognitions of people, advocates, and scientists). There is now evidence to show that the food, drink, and alcohol industries use similar tactics and strategies to the tobacco companies to undermine public health interventions. We outline the common strategies that these industries use, as reported in the disclosure of industry documents relating to alcohol marketing,<sup>47,48</sup> and in reviews of the similarities between tobacco and food<sup>49</sup> and the similarities between alcohol and tobacco.<sup>50,51</sup>

The first strategy is to bias research findings. For example, Philip Morris International implemented the Whitecoat project to hire doctors to publish ghost-written confounder studies purporting to negate links between environmental tobacco smoke and harm.<sup>52</sup> The tobacco companies created quasi-independent organisations to publish biased and partial scientific reports,<sup>53</sup> deny harm, and suppress health information.<sup>46,54</sup> Similarly, funding

from transnational food and beverage corporations biases research. A meta-analysis of research publications showed systematic bias from industry funding,<sup>53,55</sup> with articles sponsored exclusively by food and drinks companies four-times to eight-times more likely to have conclusions favourable to the financial interests of the sponsoring company than those that were not sponsored by food or drinks companies.<sup>55</sup> The International Center for Alcohol Policies, an organisation established and funded by large global alcohol producers, commissioned reports from scientists that resemble WHO documents. These reports were “incomplete, not subject to traditional peer review, and either supportive of industry positions or emphasizing high levels of disagreement among scientists”.<sup>56</sup>

The second strategy is to co-opt policy makers and health professionals. To undermine tobacco control research, the US Tobacco Institute promoted partnerships with scientists. They hired researchers and disseminated health promotion strategies to mislead the public about the harmful effects of smoking. Like the tobacco industry, the food and drink industry develops customers as young as possible, using tactics such as early-childhood health promotion schemes. SAB Miller

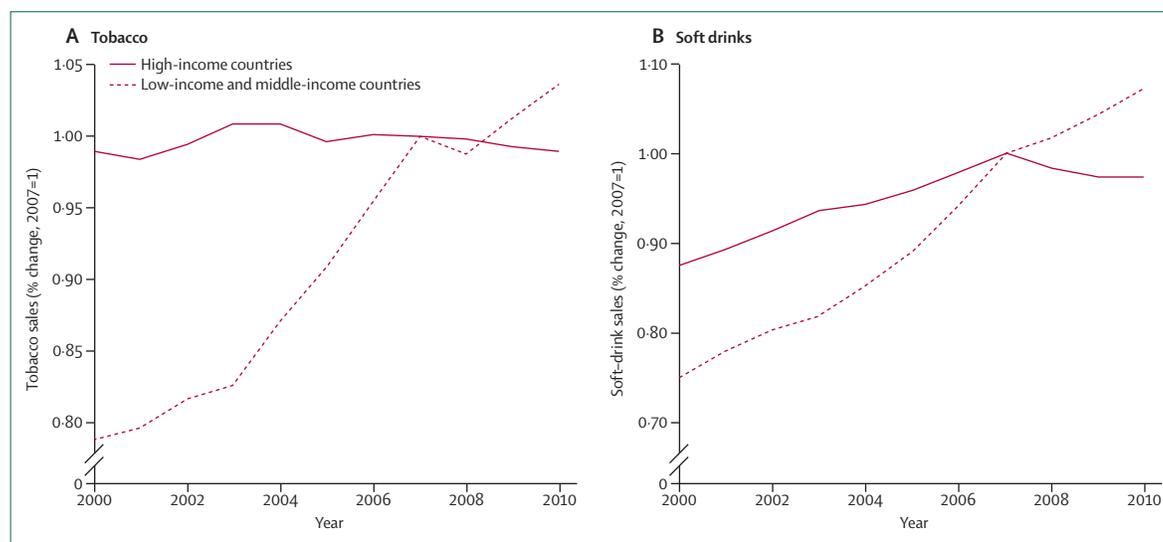


Figure 1: Trends in tobacco and soft-drink retail sales

Brazil	China	India	Mexico	Russia	South Africa	USA
1 Nestlé (8.4%)	China Mengniu Dairy (4.9%)	Gujarat Co-operative Milk (7.9%)	Grupo Bimbo (9.1%)	Wimm-Bill-Dann Foods (4.7%)	Tiger Brands (19.5%)	Kraft Foods (6.8%)
2 Brasil Foods (5.0%)	Inner Mongolia Yili (4.7%)	Britannia Industries (5.0%)	PepsiCo (5.3%)	Danone (4.3%)	Pioneer Foods (6.3%)	PepsiCo (5.2%)
3 Kraft Foods (3.9%)	Kuok Oils & Grains (3.5%)	Nestlé (4.9%)	Nestlé (3.8%)	Nestlé (2.8%)	Nestlé (4.7%)	Nestlé (4.2%)
4 Unilever (3.3%)	Ting Hsin International Group (3.1%)	National Dairy Development (4.8%)	Grupo Lala (3.6%)	Obiedinenye Konditery (2.3%)	Clover Ltd (4.7%)	Mars (3.2%)
5 Danone (2.8%)	Shineway Group (2.9%)	Parle Products (4.8%)	Kraft Foods (2.8%)	Mars (2.1%)	Parmalat Group (4.6%)	Kellogg (2.7%)

Adapted with permission from reference 42. Percentages refer to proportion of the total market accounted for by each corporation.

Table 2: Top five companies responsible for sales of packaged foods in different countries

and the International Center for Alcohol Policies have assisted the Lesotho, Malawi, Uganda, and Botswana Governments to write their national alcohol control policies.<sup>57</sup> The four draft National Alcohol Policy documents were “almost identical in wording and structure and that they are likely to originate from the same source”,<sup>57</sup> and were designed to “serve the industry’s interests at the expense of public health by attempting to enshrine ‘active participation of all levels of the beverage alcohol industry as a key partner in the policy formulation and implementation process’”.<sup>57</sup>

The third strategy is to lobby politicians and public officials to oppose public regulation. Tobacco transnationals lobby policymakers and fund campaigns of politicians who support tobacco use. The lobbying power of alcohol and ultra-processed food and drink corporations is also substantial. According to US Senate records, the largest alcohol companies spent US\$150 million lobbying compared with \$40 million for tobacco between 1999 and 2011.<sup>58</sup> US Senate Office of Public Records shows that PepsiCo alone reported spending more than \$9 million in 2009 to lobby the US Congress.<sup>59,60</sup> On the basis of filings with the Federal Elections Commission, in the 2008 election cycle, the company’s Political Action Committee so-called Concerned Citizen Fund alone contributed \$547700 to candidates for federal office.<sup>61</sup> Its policy emphasises contributions to candidates who are “pro-business”, and who have a “commitment to improving the business climate” pending the “candidate’s position on key committees where legislation of importance to PepsiCo is considered”.<sup>62</sup> In another example, the Sugar Association threatened WHO that it would lobby the US Government to withdraw its funding because WHO strategy on diet, physical activity, and health highlighted a strong link between sugar and NCD risk.<sup>63</sup> Several people from these industries were billed in the official agenda of the September, 2011 UN high-level meeting on NCDs as the lead representatives of civil society, and gave keynote statements designed to guide policies. One was a former US Ambassador who is now Vice President, Global Public Policy and Government Affairs, at PepsiCo. The high-level meeting civil society list also included representatives from alcohol transnationals such as Diageo, SAB Miller, and Molson Coors Brewing.<sup>64</sup>

The fourth strategy is to encourage voters to oppose public health regulation. For example, the tobacco industry has, and continues to campaign for, a restricted role of government, and against taxation and regulation. Their campaigns emphasise that tobacco use is an individual responsibility and raise arguments against so-called nanny state governments.<sup>65</sup> Contrastingly, public health highlights the importance of social, economic, and political factors, and ethical considerations.<sup>43</sup> The differences between high-risk individual and population approaches underline the gap between public health and industry perspectives.<sup>66</sup> Similarly, blame-the-victim

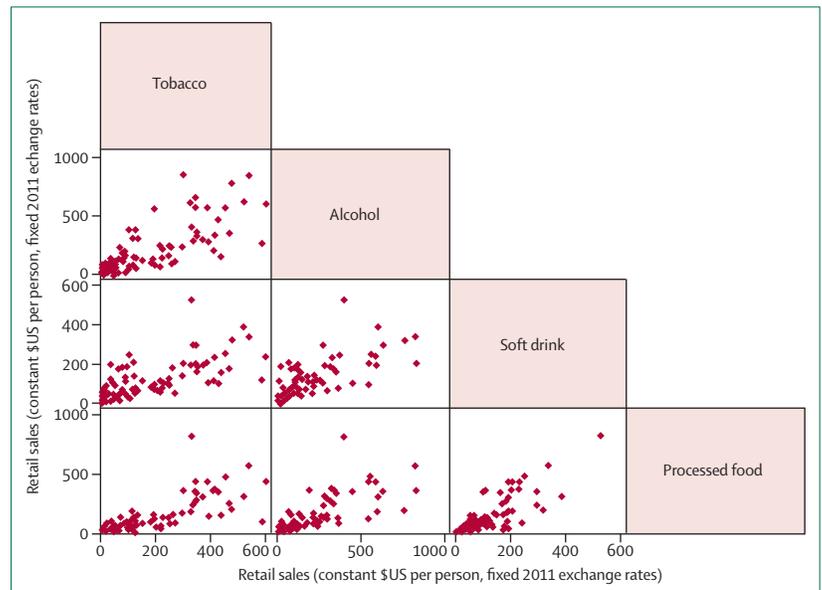


Figure 2: Data are from the EuroMonitor industry data 2011 edition<sup>32</sup>  
Each datapoint is one country’s data for the latest available year, 2011.

campaigns by transnational food corporations reduce public support for government interventions.<sup>67</sup> As an alternative to regulatory measures, alcohol and food industries promote ineffective individually-targeted information and educational approaches,<sup>49,68-72</sup> and sometimes employ counter-productive covert marketing.<sup>17,49,72-75</sup> Their social-marketing campaigns place responsibility for the purchasing decision on the individual, and in doing so, separate these choices from the circumstances in which they are made.<sup>49,75</sup> The media regularly emphasise personal choice and responsibility and convey government intervention as coercive and oppressive. Despite the industries’ professed faith in these information-based approaches, they avoid disclosure of relevant health information to consumers. From the denial of tobacco addiction as late as 1994<sup>76</sup> to the obstruction of traffic-light labelling of unhealthy food<sup>77</sup> and the recent detraction of alcoholic drinks from EU labelling legislation,<sup>78</sup> the tobacco, alcohol, and food industries have all tried to block access to objective health information and to manipulate channels of communication.<sup>56,72,73</sup>

To deflect criticism, corporations promote actions outside their areas of expertise. For example, tobacco corporations promote the prevention of violence against women<sup>79</sup> and ultra-processed food and drink corporations emphasise physical inactivity.<sup>3</sup> Tobacco and alcohol producers also highlight illegal distribution and smuggling to deter policy makers from introducing regulation that will curtail their own activity.<sup>80</sup> The similarities between strategies used by the tobacco, alcohol, and food and drink corporations are unsurprising in view of the flow of people, funds, and

activities across these industries, which also have histories of joint ownership—eg, Philip Morris owned both Kraft and Miller Brewing;<sup>81</sup> Altria is a lead shareholder in tobacco and food companies that have shared directorships;<sup>50</sup> SAB Miller Board includes at least five past or present tobacco company executives and board members;<sup>40</sup> and the Diageo Executive Director, responsible for public affairs, spent 17 years in a similar role at Philip Morris.<sup>56</sup> Additionally, tobacco and food and drink corporations use the same public relations firms to lobby worldwide<sup>82</sup> and to design stakeholder marketing campaigns such as Pernod Ricard's drink Responsib'All Day.<sup>39</sup> The alcohol and food and drink<sup>63</sup> industries are united in intense opposition to the development of an equivalent to the WHO Framework Convention on Tobacco Control. Article 5.3 of this convention outlines the protection of public health policies for tobacco control from commercial and other vested interests of the tobacco industry and is relevant to the alcohol and ultra-processed food and drink industries. The actions of transnational corporations have generated such major concerns in the public health community,<sup>83</sup> that there is now an emerging willingness to address these issues with scientific methods and systematic analysis.

### Public health responses to unhealthy commodity industries

What is the most effective way to address the disease burden caused by unhealthy commodities: voluntary self-regulation, public-private partnerships, or regulation and market intervention?

Industry-operated, voluntary self-regulation is the default approach of many governments and the UN, and the preferred approach of industry. It is argued that market forces, driven by informed individual choice, correct for negative results caused by high consumption of unhealthy commodities. For example, the UK Government based much of its initial public health strategy on nudge theory<sup>84</sup> and voluntary action of the food and alcohol industries with the Public Health Commission,<sup>85</sup> and the Responsibility Deals.<sup>86</sup> The UK's obesity control policy has been criticised heavily by British public health experts as a smokescreen for publicly endorsed marketing.<sup>87,88</sup> A new alcohol strategy<sup>89</sup> for England released in March, 2012 is more evidence-based than the obesity control policy and, as in Scotland, sets a minimum price per unit of alcohol.

The second model of interaction is public-private partnership, which is based on the belief that association with industry leads to greater success than does acting independently of them. Although the argument against this approach is clear for tobacco and alcohol, the situation for the food and drink industries is more complex. Supporters of this view claim that people need to eat and drink, that not all processed foods are unhealthy, and that partnership with industry might lead to reformulation of some products to less unhealthy compositions. It is argued that the world's population will consume more ultra-processed foods and drinks over the coming decades than ever before; therefore, a compromise that minimised their harm might have substantial public health benefit. Many public-private partnerships exist—eg, the recently announced 3 year partnership between the International Diabetes Federation and Nestlé, which was announced in April, 2012.<sup>90</sup> However, there is little objective evidence that public-private partnerships deliver health benefits, and many in the public health field argue that they are just a delaying tactic of the unhealthy commodity industries.<sup>10,91–94</sup> Brownell believes that “when the history of the world's attempt to address obesity is written, the greatest failure may be collaboration with, and appeasement of, the food industry”.<sup>93</sup> Potential benefits are less apparent and the risks are greater in low-income countries than in high-income countries (panel 3). The UN and many national governments presently favour such partnerships, but definitive outcomes of existing partnerships need to be independently and objectively monitored to establish whether they are effective. Another public-private partnership model is conditional engagement, which supports so-called round-the-table interaction with industry to promote evidence-based policy, the critical appraisal of industry-based approaches,

#### Panel 3: Product reformulation

A reason frequently given for public-private partnerships with food and drink corporations—whose profits largely depend on ultra-processed products—is the encouragement of product reformulation, so that at least some of the products will contain less trans-fats or less salt.

The case for reformulation is most apparent in high-income countries where markets might be saturated with ultra-processed products—ie, more than 60% of total energy intake.<sup>33</sup> If the market is saturated, consumers might prefer the new product without consuming more ultra-processed products—eg, in the USA, sales of sugared soft drinks are unchanged, and alternatives such as designer water have increased.<sup>95</sup> Nonetheless, in such countries, the main emphasis on and support of national governments and the public health community should be promotion of healthy meals, dishes, and foods.

Discussions about product reformulation, with or without public-private partnerships, have focused on risks and benefits in high-income countries. However, in low-income countries, benefits are less obvious, and the dangers are very apparent. In such countries, consumption of ultra-processed products is low. These countries are therefore the prime targets of transnational corporations. If they reformulate, advertise, and promote some of their less unhealthy products as healthy—eg, sodium-reduced (but still high energy-dense) packaged snacks or artificially sweetened (but still nutrient-devoid) soft drinks—the overall consumption of ultra-processed products is likely to increase, which would undermine long-established dietary patterns based on fresh or minimally processed foods. In low-income countries, the reformulation of ultra-processed food and drink products is similar to the tactics of the tobacco industry in introduction of filtered cigarettes and low-tar cigarettes.

The reformulation approach is a damage-limitation exercise,<sup>6</sup> to avoid evidence-based approaches such as the restriction of availability and of advertising, and pricing policies designed to promote healthy food, such as now being undertaken by order of the Mayor and municipal authorities of New York City.<sup>96</sup>

and the establishment and independent observation of objectives and outcomes. A concern is that public–private partnerships are simply a means for industry to co-opt public health.<sup>49</sup>

The third model of interaction is public regulation, which specifically recognises the conflicts of interest between promotion and protection of public health and the corporations that profit from unhealthy commodities. Because growth in sales, turnover, and profit<sup>72</sup> are the main goals of transnational corporations, supporters of public regulation believe that self-regulation and working from within are ineffective and counter productive.<sup>7</sup> Most advocate statutory regulations, analogous to those used to control firearms, road traffic, drugs and tobacco, and to protect parks, forests, and open spaces. Public regulation is a model of very active critical analysis that can be achieved in three ways. First, by galvanisation of an evidence-based constituency that implements effective and low-cost policies by making apparent the need for regulation and market intervention. Second, directly pressuring industry to change by making harmful practices obvious. Third, by raising of public awareness of the negative actions of these industries—an approach that is effective in changing the behaviour of the tobacco industry. To make the regulation of tobacco, alcohol, salt, sugar, and trans-fats politically feasible in most countries, constant active public pressure is needed.

### The case for public regulation

On the basis of evidence and experience so far, the tobacco industry is ruled out of any interaction with public health policy makers, researchers, and practitioners, other than what is consistent with the Framework Convention on Tobacco Control. Guidelines for implementation of article 5.3 of the Convention state that the “parties should interact with the tobacco industry only when and to the extent strictly necessary to enable them to effectively regulate the tobacco industry and tobacco products”.<sup>97</sup> No plausible rationale exists for action by public health interests with alcohol and ultra-processed food and drink industries, except when action is driven by the threat of government regulation, such as the UK partnership on salt reduction.<sup>98,99</sup> However, a similar partnership in Australia has not yet resulted in reduced salt consumption because the companies implicated do not profit from the process, and there is no threat of regulation or sanctions.<sup>100</sup> Engagement with industry needs to generate profit, but legitimate mechanisms through which public health institutions and professionals could contribute to increasing industry profits are hard to identify. To promote health, the food and drink industries need to move consumption patterns away from ultra-processed food and drink products; however, these products are more profitable than less-energy-dense, nutrient-rich foods. In the alcohol industry, sales and profits are dependent on many consumers drinking at risky quantities. As Coca-Cola states, “increasing public concern about these issues;

possible new taxes and governmental regulations concerning the marketing, labelling or availability of our beverages; and negative publicity resulting from actual or threatened legal actions against us or other companies in our industry relating to the marketing, labelling, or sale of sugar-sweetened beverages may reduce demand for our beverages, which could affect our profitability”.<sup>101</sup> Thus, industry maintains profit only if it undermines attempts to tax and regulate, or if people who consume more healthy commodities continue to consume profitable, but unhealthy commodities;<sup>7</sup> neither is desirable from a health perspective.

The precautionary principle argues against public–private partnership because there is no evidence that the partnership of alcohol and ultra-processed food and drink industries is safe or effective, unless driven by the threat of government regulation.<sup>49,93</sup> Similarly, there is little evidence that self-regulatory approaches are effective.<sup>56,75–78,102–104</sup> For example, the so-called voluntary decision by Kraft to ban trans-fats was a result of threatened litigation.<sup>102</sup> Furthermore, legislation for clean air,<sup>105</sup> asbestos,<sup>106</sup> road trauma,<sup>30</sup> and tobacco<sup>86</sup> was introduced

#### Panel 4: Recommendations of action for non-communicable diseases

##### For public health policy making, research, and programmes

- Unhealthy commodity industries should have no role in the formation of national or international policy for non-communicable diseases
- Interactions with the tobacco industry should be restricted and made consistent with recommendations of the Framework Convention on Tobacco Control
- Discussions with unhealthy commodity industries should be with government only and have a clear goal of the use of evidence-based approaches by government
- In the absence of robust evidence for the effectiveness of self-regulation or private–public partnership in alcohol, food, and drink industry, rigorous, timely, and independent assessment is needed to show that they can improve health and profit

##### For public health professionals, institutions, and civil society

- Highly engaged, critical action is needed to galvanise an evidence-based constituency for change to implement effective and low-cost policies, to place direct pressure on industry to change, and to raise public awareness of the unhealthy effects of these industries
- Funding and other support for research, education, and programmes should not be accepted from the tobacco, alcohol, and ultra-processed food and drinks industries or their affiliates and associates

##### For governments and international intergovernmental agencies

- Evidence-based approaches such as legislation, regulation, taxation, pricing, ban, and restriction of advertising and sponsorship should be introduced to reduce death and disability from non-communicable diseases

##### For governments, foundations, and other funding agencies

- All approaches in the prevention and control of non-communicable diseases—ie, self-regulation, public–private partnerships, legislation, pricing, and other regulatory measures—should be independently and objectively monitored
- Funding of policy development research into modes of regulation and market interventions should be accelerated and prioritised
- A new scientific discipline that investigates industrial diseases and the transnational corporations that drive them, should be developed

only after the repeated failures of the industries responsible for solving these problems through self-regulation. The argument against self-regulation is that even if some progressive food and alcohol companies use healthier approaches, the gap in the market would be filled by others. Another counter argument is that ill-conceived partnerships with industry can lead to procrastination and delay—a standard industry tactic to avoid regulation.

We believe that civil society should be aligned with government, which has the responsibility and power to protect public health, although compromised by transnational corporations. To fulfil this aim, governments need information and support from civil society and from public health interests. Regulation, or the threat of government regulation, is the only way to change transnational corporations; therefore, the audience for public health is government and not industry. Discussions with unhealthy commodity industries will be helpful only if they are with government and if the goal is for government to use evidence-based approaches. To respond to the scale and urgency of the global NCD epidemics, the industrial drivers that underpin them, and the tactics used by the unhealthy commodity industries so far, we have ten recommendations for action (panel 4).

#### Contributors

NS provided the original concept of the paper. RM and DS steered the paper. All authors contributed to each draft of the paper, with special contribution on food and drink industries by CM, DS, BN, and PL; and on the alcohol industry from NS, SC, DS, and TT.

#### Conflicts of interest

BN is the Chair of the Australian Division of World Action on Salt and Health (2007–ongoing). He has consulted to Roche (2010) and Takeda (2010). He has received lecture fees, travel fees, or reimbursements from Abbott (2012), Amgen (2007), AstraZeneca (2010), GeorgeClinical (2012), GlaxoSmithKline (2007), Novartis (2012), PepsiCo (2011), Pfizer (2011), Pharmacy Guild of Australia (2012), Roche (2012), Sanofi-Aventis (2006), Servier (2008), and Tanabe (2007). He holds research support from the Australian Food and Grocery Council (2012), Bupa Australia (2012), Johnson and Johnson (2012), Merck Schering Plough (2011), Roche (2012), Servier (2012), and United Healthcare Group (2012). He is not employed by a commercial entity; has no equity ownership or stock options, patents, or royalties; and has no other financial or non-financial support that might be viewed as creating potential conflicts of interest.

NS is co-chair of the UK Government Responsibility Deal network, trustee of the Drinkaware Trust, member of the EU Alcohol and Health Forum, and was a member of the Public Health Commission—all bodies with alcohol industry representation. NS is also a member of the Alcohol Health Alliance UK executive board, Royal College of Physicians' alcohol committee, and is involved in other health NGOs including Alcohol Concern. None of these commitments included financial gain but some have reimbursed travelling expenses.

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