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Behaviors

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Manuscript Draft

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Title: Industry interests in gambling research: Lessons learned from other forms of hazardous consumption

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Keywords: gambling, tobacco, alcohol, industry, vested interests

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To the Editor,

Submitted for your consideration is an original manuscript entitled “Industry interests in gambling research: Lessons learned about other forms of hazardous consumption”. This paper is being submitted for consideration with *Addictive Behaviors*.

The focus of the paper is on the risks of industry funding for gambling research, which is framed by literature on usages of research to influence policy by the tobacco and alcohol industries. The context is strong concern about the high levels of industry involvement in gambling research (particularly in the UK, where an industry sponsored organisation is the main commissioner of relevant research on behalf of government), but also recent papers written by researchers with industry connections which have downplayed or dismissed the risks of industry linkages.

One such paper was published recently in the journal *International Gambling Studies* (which itself has strong industry connections at the editorial level) which dismisses concerns about industry influences on gambling research, as well as the relevance of literature on tobacco and alcohol industries. The first author on this submission wrote a letter to the editor in response to this paper, and have developed this into the current full-length article.

The letter to the editor can be found here:

<http://www.tandfonline.com/doi/abs/10.1080/14459795.2017.1321682?journalCode=rigs20>

We are aware of no other paper that provides an accessible synthesis of wider literature on the tactics of tobacco and alcohol industries, and has drawn parallels with practices of the gambling industry. We believe that this paper is extremely important for increasing awareness of the risks of industry funding for gambling research, and allowing researchers and policy makers to make informed decisions about engaging with the gambling industry.

Both authors on this manuscript have approved this version for submission, and can confirm manuscript has not been submitted for publication elsewhere.

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We look forward to hearing from you or one of your Associates in due course.

Sincerely,

Sean Cowlshaw and Samantha Thomas

To the Editorial Team,
Addictive Behaviors,

We appreciate your consideration of our submission entitled 'Industry interests in gambling research: Lessons learned about other forms of hazardous consumption'. We are grateful for the feedback and opportunity to respond to comments from the reviewers. I have copied these comments below (in bold), followed by our responses.

Reviewers' comments:

Reviewer #1:

This is a potentially valuable paper which shows significant similarities between industry approaches across harmful products, presents some lessons to be learned by those working on gambling, and offers helpful conclusions for both those working to reduce gambling harms and researchers in the area.

Given recent developments in relation to different forms of gambling, the paper would be particularly time. This reviewer would be keen to see it published, albeit with some amendments to address issues raised as below.

While a number of these are listed, they mainly suggest wording changes and other minor edits or suggestions: hence the recommendation is for "Minor Revision" only. For the minor/wording edits, I would suggest that the authors do not need to set out in detail ways in which they have responded.

For the sake of completeness, we have provided brief indications of responses to each suggestion.

Some of the wording is a little loose. For example, the title would better read ".... Lessons learned from other forms of hazardous consumption...." than "about"; and in the "highlights" section, "awareness" might be better than "recognition".

Wording in the title and the highlights section has been revised as suggested.

Further notes raising similar editorial suggestions follow on a section-by section basis.

Abstract

"..... engineering of evidence" - suggest "engineering of evidence among other approaches".

"It then reviews emerging evidence..." - suggest "it then reviews both earlier and emerging evidence..."

The abstract has been revised in accordance with the suggestion.

Background

"relative to..."- I think the authors here are trying to make the point that the burdens may be similar to those from smoking and alcohol use. If so, "comparable" may be better - although this point needs to be made with some care. Suggest "comparable in

some regards...". The reference here (6) seems to be specifically about alcohol rather than in relation to the point made.

We have revised the wording as suggested. We have also included a reference which reports the comparison across burdens attributable to gambling and alcohol misuse (along with other health-related conditions).

"Notwithstanding" is the wrong word in this context (would require additional wording to make sense). Suggest "nonetheless".

We have revised the wording as suggested.

"Health risks from studies" - surely not from the studies themselves? Suggest minor edit.

We have made an insertion and now refer to "indirect public health risks from studies". We believe that this is a reasonable interpretation for studies that may be used to help subvert policies that would otherwise reduce gambling-related harms.

Hazardous consumptions and conflicts of interest

"goals of public health promotion" - suggest "goals of public health"

We have revised the wording as suggested.

"for example, US studies suggest around 10% of adult drinkers that are problem drinkers...." - Needs minor edit. The authors may also wish to consider use of the term "problem drinkers" given that many problems attributed to alcohol arise from used by those who might not be considered "problem drinkers" - although this may be an issue for another paper considering industry preferences for terms such as "problem drinkers" and "problem gamblers" to minimise concerns. "But who still account for" should read "but still account for".

We share concern about uses of the term 'problem drinking' to minimize concerns about alcohol consumption, and make a similar point in this paper about usages of the term 'problem gambling'. However, we believe that it would be more suitable to address this concern (as relates to alcohol) at a later point of the article. As such, and while we recognize that other psychiatric nomenclature is associated with similar concerns, we have endeavored to avoid the issue here by (a) revising the wording as suggested, and (b) changing the term 'problem drinkers' to those that 'exhibit abusive and dependent drinking' (the latter of which is consistent with the referenced paper). Later in the paper we provide a footnote which addresses the usage of the term 'problem drinking' to support industry messaging that alcohol-related harms are confined to small numbers of drinkers.

In addition to these changes, we have also provided more detail about age differences reported in the reference paper, and corrected an erroneous figure which was based on a secondary citation we had referred to in an earlier draft of the manuscript.

"While most consumers do not experience problems or addiction....": I have some concerns here. First the issue raised above - many consumers may experience problems even if not falling into categories defined by industry or others as "problem" consumers; second, this does not apply to smoking, where upwards of 50% of regular consumers will die because they smoked (two thirds in Australia). Suggest some re-wording of this and the next sentence.

As noted, we have endeavored to avoid concerns about this terminology and have also made modifications here. Sentences have thus been changed (a) from 'while most consumers do not experience problems or addiction' to 'while most consumers would not be classified as exhibiting severe problems or dependence', and (b) from 'problematic consumers' to 'people exhibiting problems'. We have also inserted a footnote to indicate that this does not apply to smoking.

Tobacco research.....

"Encompassing a view of corporations as disease vectors" - suggest "encompassing a view of some corporations...." (Otherwise the implication is that this applies to all corporations in any area.)

We have revised the wording as suggested.

"Erosions of freedoms by a 'nanny state'." Not quite accurate: the term "nanny state" is now much used by harmful industries and their supporters, but while coined in the 1950s, has only come into such prominence relatively recently.

We have removed reference to the term 'nanny state'.

"Notwithstanding the negative impacts...." - Suggest "notwithstanding the many direct and indirect harms, from premature mortality and morbidity to the negative impacts of passive smoking..."

We have revised the wording as suggested.

"Studies yielding conflicting results...." - Suggest, "studies designed to yield results conflicting with evidence accepted by governments and health authorities...."

We have revised the wording as suggested.

"Notwithstanding" - as above.

We have replaced 'notwithstanding' with 'nonetheless'.

Following in their footsteps

"policies agreed by developed countries". That is wrong - the FCTC and its policies have been accepted by many more (including many low and middle-income countries) - it has been ratified by 181 countries.

We have revised the sentence which now reads 'policies agreed by more than 180 countries'.

"That formally excludes industry...." - As precision is important here, suggest using a specific quotation from Article 5.3 and/or the Guidelines (e.g. the statement in the Guidelines that there is a fundamental and irreconcilable conflict between the interests of the tobacco industry and public health interests.).

We have inserted some specific quotations from Guidelines regarding implementation of Article 5.3 of the Convention.

"produced by lawsuits" - suggest here "as in the case of tobacco produced from

litigation and media investigations" (references could be added here to the recent Reuters and Guardian exposes).

We have revised the wording and made insertions as suggested.

"Including substantial industry representation" - suggest "including substantial direct and indirect....".

We have made this insertion as suggested.

"Emphasising individual responsibility or problem drinking...." - see comments above. Perhaps this could be addressed at least in part by putting "problem drinking" within quote marks throughout, maybe with an initial reference to industry usage.

We have inserted a footnote here to indicate that the term 'problem drinking' also support industry messaging that alcohol-related harms are confined to small numbers of drinkers.

"The International Centre for Alcohol Policies" - "was", not "is" (it has been replaced by a similar organisation with a different name.

We have replaced 'was' with 'is'.

"mirror WHO reports" - suggest "seek to mirror...".

We have made this modification as suggested, and have changed expression from present to past tense.

"The lessons learned about the tobacco industry....has provided..." - should be "have provided".

To reduce words, we have removed reference to the tobacco industry here.

"As such, the WHO has expressed a position that industry should have no role in the formulation of alcohol policies...". i) "as such" has no meaning, ii) more important, this is not a formal WHO position. The sentence would more accurately read, "In 2013 the Director General of WHO expressed the view that....".

We have changed the sentence as suggested.

Industry interests in gambling research

"Notwithstanding" - as above.

We have replaced 'notwithstanding' with 'nonetheless'.

"These have also described biases....." - I understand what this sentence is trying to say, but it could be more clearly expressed.

The sentence has been revised and now reads: 'These narrative accounts have also suggested biases....'.

"Notwithstanding commercial linkages, GambleAware has a formal role..." - excellent use of "notwithstanding" (!) - but needs reference for the government association.

We have inserted a supporting reference and clarified that the association with government is via the industry regulator and a separate advisory board.

"There also continues to be much less public money for gambling research, relative to tobacco and alcohol (the latter of which is itself underfunded).....". Two observations here: first, the experience of this reviewer (and researcher) is that much more funding is available for alcohol research than for tobacco - although for both over the years funding for research addressing areas such as treatment and cessation has been much more in evidence than funding for research addressing prevention in general and commercial vectors in particular; second, I'm not sure that it is helpful to make comparisons with two other areas where potentially useful research is underfunded. It may be more appropriate to place the lack of funding for gambling research in the context of limited funding for prevention research in general, and the funding available for other forms of health/medical research.

We have removed the direct comparisons across levels of funding for gambling, alcohol and tobacco research.

"Difficulties accessing gambling data...." - This used to be an approach cited by researchers working in tobacco.

We have changed reference from 'greater' to 'very high' (thus also removing any comparison).

Conclusions

"all industry representatives.... being excluded" - suggest "being excluded from any role in....".

We have made the insertion as suggested.

Although not a report about alcohol or tobacco (or gambling), in noting the value of learning from other areas the authors may somewhere in the body of the text wish to use a phrase from the 2014 McKinsey Global Institute report on Obesity ("Overcoming obesity: An initial economic analysis" - where they include "Logic based on parallel evidence" - in the context of their report, this related to lessons for obesity from areas like tobacco, but it may be a useful phrase to incorporate somewhere in the discussion).

We agree that this is a useful phrase and have incorporated this at two points in the paper (initially regarding obesity / nutrition research and then again in the conclusions).

Reviewer #2

The authors have produced a well written manuscript, highlighting some important issues in relation to industry involvement in gambling research. Drawing on experiences from the alcohol and tobacco field, this article serves as a brief and engaging cautionary tale for those working in the gambling field. However, it is this sense of being a cautionary tale which I find problematic. My view is that the authors have not answered the really big question posed by their own review and discussion, which is 'what can we do?'. There have been many, many opinion pieces and reviews of this kind published in the alcohol and tobacco field, all of which draw similar conclusions - industry involvement in anything is bad for public health and research, there are lots of ways in which industry influences policy to its own advantage, and we need to be cautious of this.

Unfortunately, a paper of this kind, in its current format, does little to advance our understanding of the problems in gambling, beyond reiterating opinions shared by many other researchers (throughout numerous published works cited by the authors here). Nor does the paper offer any concrete way forward to avoid the pitfalls of tobacco industry manipulation, and more recent concerns around the alcohol industry's lobbying activity.

The danger is that publications of this kind fall in to the trap of sounding like a council of academic despair - 'why won't the government ignore industry with all its vested interests and just do what we say?'. Minimum unit pricing is a clear example of when the scientific evidence is as clear as it ever will be (short of the time when MUP is, hopefully, introduced and we can see whether the scientific predictions are correct), but the political will to act on this is lacking in England, and in Scotland the initiative is tied up in litigation with the industry. So I ask again - what do the authors suggest we do, other than just to be cautious?

We agree that the question of 'what can we do' is important, and had attempted to address this in several ways. Our paper reflects the assumption that limited understanding of practices of hazardous consumption industries, and scant awareness of the risks of relationships with commercial bodies, are contributing to the high levels of industry involvement in gambling research. As such, the paper is itself intended to improve recognition of these concerns and contribute towards informed responses to industry funding for gambling research. Furthermore, in the conclusion section we had also indicated a range of things that should be done including (a) direct studies of gambling industry practices, (b) increasing funding for gambling research, (c) implementing credible structures for protecting research commissioning from the interests of private companies, and (d) developing suitable models of engagement with the gambling industry to guide researchers.

There are already papers which are singularly focused on proposing additional responses to industry funding for gambling research (e.g., via development of codes of conduct or charters for practice), and we believe that additional discussion is out of scope of this brief paper that aims to increase familiarity with tactics of hazardous consumption industries, and substantiate concerns about the gambling industry. Nonetheless, we respectfully disagree with the assessment that these aims do little themselves to advance understanding of problems in the gambling field. While we cite papers which have also expressed concerns about the gambling industry, the number of such papers is small and none have provided an accessible synthesis of literature on tactics of hazardous consumption industries, or outlined the parallel practices of the gambling industry (which we believe is an important device for substantiating concerns). Furthermore, we disagree that there is sufficient or widespread acceptance of the actual need for developing responses to industry funding for gambling research. This is illustrated by a recent article from senior researchers (who have declared industry linkages) in a specific gambling journal (that also include industry sponsored researchers at the senior editorial level), that has attempted to marginalize concerns about the gambling industry as unfounded conspiracy theories. See:

Delfabbro D, King D. (2017). Gambling is not a capitalist conspiracy theory: A critical commentary of literature on the 'industry state gambling complex'. International Gambling Studies, 17, 317-31.

In this context, we believe that the current paper which also links observations of the gambling industry with a larger body of mainstream evidence about industry practices is timely, and provides critical support for approaches to responding to such concerns described elsewhere.

Nonetheless, and given this feedback from the reviewer, we have made the following changes to the manuscript:

- We have removed references to a 'cautionary perspective' in both the highlights section and conclusions.
- In the conclusions section, we have directly addressed the contrast between our conclusions and recent attempts to discount concerns about influences of the gambling industry on research.
- In this section, we have also discussed some initiatives which have been proposed in response to industry influences on gambling research.
- In the conclusions section, we have also expanded our discussion to (a) establish the need for additional work to develop suitable models of engagement with the gambling industry that can guide researchers, and (b) more clearly identify a systematic framework for appraising factors that can be used by researchers to determine the hazardous of industry relationships.

We would also strongly welcome the submission of a commentary or response to this paper that raises this question and provides a further opportunity to publicly engage with this issue.

In addition to these changes, we have also edited the paper thoroughly to maintain brevity. However, given that most of the reviewer comments suggested insertions to the paper (particularly quotations from the WHO Framework Convention on Tobacco Control), with few exclusions, the word count remains at 3,648 which is slightly above the usual word limit for this journal.

Highlights

- There is growing concern about industry influences on gambling research, but also proponents of commercial involvement who downplay the risks and potential negative consequences. This paper examines such concerns in the context of evidence about other hazardous consumption industries.
- The paper reviews literature on tobacco and alcohol industries, which documents the usages of research to manufacture doubt and divert attention away from roles of hazardous consumptions in producing harms. It highlights ways in which industry can exert control over research and mask involvement through ‘third-party’ organisations.
- Although there is less awareness of practices of the gambling industry, there is preliminary evidence of analogous influences on the agenda for gambling research and use of third-party techniques. The paper provides examples from the UK context, which is characterised by particularly high levels of industry involvement in gambling research.
- Indications of parallel practices across industries provide grounds for strong concern about commercial influences on gambling research, and support precautionary approaches to vested interests.

VESTED INTERESTS IN GAMBLING RESEARCH

Running head: INDUSTRY INTERESTS IN GAMBLING RESEARCH

Industry interests in gambling research: Lessons learned from other forms of
hazardous consumption

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VESTED INTERESTS IN GAMBLING RESEARCH

Abstract

Research indicates that the evidential bases for many harm reduction policies targeting hazardous consumptions (including tobacco, alcohol and gambling) have been distorted by commercial industries that derive revenue from such commodities. These distortions are best illustrated by research on tobacco and alcohol, which indicates similar tactics used by industries to determine favourable policy environments through engineering of evidence, among other approaches. Although there is concern that gambling research is similarly vulnerable to commercial interests, the relevant literature lags far behind other fields and the aim of this paper is to increase familiarity with tactics used by industries for influencing research. It summarises the conceptual and empirical bases for expecting conflicts between goals of public health and companies that profit from hazardous consumptions. It also summarises evidence describing practices deployed by tobacco corporations, which include third-party techniques and the selective funding of research to manufacture doubt and deflect attention away from the consequences of smoking. It then reviews both early and emerging evidence indicating similar strategies used by alcohol industry, and uses this literature to view practices of the gambling industry. It argues that parallels regarding selective funding of research and third-party techniques provide grounds for strong concern about commercial influences on gambling research, and implementation of precautionary approaches to management of vested interests.

Keywords: gambling, tobacco, alcohol, industry, vested interests

1.0 Background

Recent decades have been characterised by expansions in the availability of gambling products and services [1-4], which have provided for growth in participation and behaviours that precede gambling-related harms [5]. These contribute towards substantial burdens on public health, which are comparable in some regards to other hazardous or addictive behaviours (e.g., alcohol use) [6] that are indicated targets for harm reduction policies [7]. However, research indicates that the evidence underlying many such policies has been distorted by commercial industries that derive revenue from these commodities [8]. Although literature on gambling lags far behind other hazardous consumptions, there is concern that relevant research is similarly vulnerable to commercial interests [9-12]. Nonetheless, there are proponents of industry involvement who dismiss the broader literature [13] and argue that gambling is distinguished by industry control over venues and data, which necessitates partnership with corporations [14, 15]. However, such arguments downplay and sometimes ignore the risks and negative consequences of industry influences. These include threats to the integrity of research and to researchers who are vulnerable to reputational damage, as well as indirect public health risks from studies that may (unintentionally or not) help subvert policies that would reduce gambling harms [16].

It is important that researchers and policy makers make informed decisions about engagement with the gambling industry, and the purpose of this paper is to outline literature on tactics used by hazardous consumption industries for influencing research. It will focus mainly on practices deployed by tobacco corporations, and will also describe evidence about strategies adopted by other (e.g., alcohol) industries. This literature will be used to frame concerns about the gambling industry.

2.0 *Hazardous consumptions and conflicts of interest*

There are long-standing public health concerns about practices of industries of hazardous consumption [8, 16], which include tobacco, alcohol, ultra-processed foods and gambling. Underlying these concerns are conflicts between goals of public health and the economic objectives of companies that profit from consumption. These conflicts are arguably greatest when commodities possess addictive potential, given that individuals experiencing harm or addiction will typically engage in greatest levels of consumption and expenditure. For example, US studies suggest around 10% of adult drinkers (> 21 years) and 26% of youth (aged 12-20) that exhibit abusive and dependent drinking, but still account for 38% of expenditure on alcohol (due to consumption in greater quantities than drinkers who are not abusive or dependent) [17]. UK data suggests smaller numbers of people exhibiting moderate to severe problems with gambling (around 1-3%), but who account for up to 60% of gambling revenue, depending on type of activity [18]. Accordingly, it seems that while most consumers would not be classified as exhibiting severe problems or dependence¹, those who do contribute disproportionate amounts towards industry revenue. This financial ‘surplus’ from people exhibiting problems [20] sets gambling, alcohol and tobacco apart from ordinary commodities, and provides incentives for industries to protect revenue by avoiding initiatives that reduce numbers consuming at high levels.

3.0 *Tobacco research and recognition of an industrial epidemic*

The consequences of conflicts between economic and public health agendas have been illustrated by internal documents from the tobacco industry, which were released following litigation against companies in the 1990s [21]. These documents provided data for emerging research on effects of corporate behaviours on health,

¹ This does not apply to smoking, where up to two thirds of smokers are expected to die because of their smoking behaviour [19].

which have been described in terms of ‘industrial epidemics’ (encompassing a view of some corporations as disease vectors that account for the spread of health-related conditions) [8]. Analyses of these documents indicated prevailing views within industry of threats to revenue from public health reforms, and concerted attempts to avoid actions that threatened financial interests (e.g., through legislative interventions) [22]. Many tactics had a public relations focus, and were intended to present smoking as a matter of individual choice and responsibility, while framing external regulation in terms of erosions of freedoms by the state. This is notwithstanding direct and indirect harms from smoking, ranging from mortality and morbidity to impacts on others from environmental smoke, and legitimate responsibilities of governments for protecting citizens from hazardous environments [23].

Industry tactics included third-party techniques which involved commissioning of individuals or organisations to act on behalf of industry, while claiming independence and masking corporate involvement. For example, there was heavy investment in networks of paid scientific consultants [24], as well as contract research organisations and ‘think tanks’ that were commissioned to support industry positions [25]. These were additional to third-party front organisations [21], such as the Council for Tobacco Research and Center for Indoor Air Research, which were formed to promote messaging that hazards of smoking and environmental smoke, respectively, had not yet been proven [26]. A function of many such organisations was to fund research that seemed independent, but allowed industry to maintain control over evidence production. Industry representatives were involved in setting agendas and prioritised topics that served public relations objectives [26], and also influenced projects that received funding. For example, scientific advisory boards

were established to support claims of independence, but were selected due to scepticism about tobacco science and economic or personal relationships with industry [22]. Approval processes were subject to manipulation (e.g., through pre-screening of funding applications, whereby some projects were excluded at early stages) [27], while there were requirements for industry representatives to edit publications and suppress or delay findings that were unfavourable [26].

Industry documents indicate that funding research was a public relations strategy that supported claims of corporate responsibility and commitment to public health [26]. However, in the context of mounting evidence of health risks from smoking, the main goal was to manufacture a sense of controversy and doubt about independent evidence. This was through the generation of studies designed to yield results conflicting with evidence accepted by governments and health authorities, which were used to dispute evidence that smoking was harmful (for example, evidence reviews linked to industry were around 90 times less likely to conclude that passive smoking was harmful, when compared to independent evaluations) [28]. It was also through the selective commissioning of research on alternative causes of disease, including genetic factors, stress, and diet [21]. The latter were used to highlight factors that could confound associations with health. They also informed strategies for deflecting attention away from roles of smoking in cancer aetiology, and emphasising targets for intervention that would impact less on smoking and industry revenue [29].

A major component of industry tactics involved campaigns to influence policy debates through widespread dissemination of selective evidence [22]. For example, results from industry research were published across sponsored symposia proceedings and reports, and letters to the editor in academic journals [26]. Reports were rarely

subject to traditional peer review, and were associated with lower quality when compared to independent literature [26]. Nonetheless, such publications were cited heavily in media campaigns and submissions to government [30]. During consultations in 2011-12 about standardised packaging of tobacco products, for example, the UK government received many submissions linked to industry which involved heavy citation of sponsored reports [31]. Analyses indicate that these were not subject to traditional peer review in most instances, and supported assertions that standardised packaging would have no health benefits (which contrasts with independent evidence) [32]. Where peer reviewed articles were cited, these did not address the role of packaging in smoking, and rather, emphasised alternative drivers of behaviour and targets for intervention [31]. As a result of analyses of tobacco industry documents, these subversive practices are recognised and there is consensus that the goals of tobacco corporations and public health are irreconcilable [8]. Accordingly, there are requirements for the protection of policy from vested interests which are agreed by more than 180 countries, and are based on the WHO Framework Convention on Tobacco Control [33]. This is an international treaty that excludes industry from interactions with policy making and related activities. By way of illustration, the guidelines for implementation of the Convention include recommendations that Parties (referring to States and other entities bound by the treaty):

“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” (p.7) [34]; and

“Should not accept, support or endorse the tobacco industry organizing, promoting, participating in, or performing, youth, public education or any initiatives that are directly or indirectly related to tobacco control” (p.7) [34].

These guidelines apply to officials, representatives and employees of any public or semi-public (or quasi-public) institution or body within the jurisdiction of a Party [34].

4.0 Following in their footsteps: Strategies of other industries of hazardous consumption

In the absence of internal documents from other industries (as is the case of tobacco produced from litigation and media investigations) [35], there is less recognition of corporate practices and responses to health policies. However, there is evidence from alternative methodologies (e.g., analyses of public documents, stakeholder interviews) [36] which indicates that some such industries are adopting similar strategies in response to threats to financial interests. In relation to the alcohol industry, for example, there is evidence of substantial misrepresentation of independent research, and selective commissioning of studies to influence policy [37, 38]. In the UK, this was illustrated during consultations about Minimum Unit Pricing (MUP); which is a price-based strategy for addressing alcohol problems which is supported by independent evidence, but opposed by many industry bodies [39]. Analyses of submissions to consultations with the Scottish Government in 2008 indicated attempts by industry to misrepresent the evidence for MUP, and promote weak studies in favour of preferred policies (e.g., education or public information) [40]. One alcohol producer commissioned the think tank Demos to study the social aspects of binge drinking and influences of parenting. The latter coincided with the UK Government’s alcohol strategy in 2010, and informed campaigns to promote the

view that addressing parenting was a superior alternative to MUP [37]. The use of think tanks is a third-party practice of tobacco companies [25], and allows industry to draw on the perceived independence of organisations, while ensuring projects remain aligned with policy preferences of the funder [37].

There is evidence of investment by the alcohol industry in third-party organisations, which have been labelled as ‘social aspects / public relations organisations’ (SAPROs) [41, 42]. These are characterised by funding from industry sources and trustee boards including direct and indirect industry representation. Some SAPROs focus on research and maintain scientific boards that support claims of independence [42]. However, these often comprise members with historical relationships with industry, and can have independence compromised in many ways (e.g., through receipt of honoraria and personal relationships with industry developed during sponsored events) [42]. These SAPROs have been observed to divert attention away from population-level interventions (e.g., regulating the price of alcohol) [43], and towards strategies emphasising individual responsibility or ‘problem drinking’² (which are among the least cost-effective strategies for addressing alcohol problems) [7]. The International Centre for Alcohol Policies, for example, was an international SAPRO that worked to counter advice from the WHO (e.g., by producing reviews that sought to mirror WHO reports, but omitted evidence and reached opposite conclusions) [45]. In the UK, SAPROs include the Portman Group, which has a history of controversy including attempts to pay academics to write anonymous critiques of WHO reviews [42]. Drinkaware is another SAPRO which began as a website for the Portman Group and is now an ostensible platform for information and education about alcohol. However, the organisation remains funded by alcohol

² The focus on ‘problem drinking’ is also aligned with industry messaging that alcohol-related harms are confined to small numbers of drinkers, and support arguments against population-wide health policies that affect the ostensibly large majority of ‘moderate’ drinkers [44].

producers and retailers and has been a vehicle for industry representation in research and policy debates (for example, Drinkaware also commissioned research on effects of parental drinking and was active in lobbying against MUP) [43].

In the absence of legally required disclosures of internal documents, there is much about the nature of corporate influences on alcohol research that remains unclear. However, the high levels of commercial involvement in research has provided grounds for concern about attempts to subvert evidence underlying policy [36, 42]. In 2013, the Director General of the WHO expressed the view that industry should have no role in formulation of alcohol policies, which must be actively protected from commercial interests [46]. There are also arguments for adopting logic based on parallel evidence (e.g., relating to tobacco) [47] and precautionary approaches to protecting nutrition research, given that policy responses to obesity require reduced consumption of processed foods that are associated with high profit margins [48]. Such arguments are supported by reviews which indicate that articles on nutrition linked to industry are up to eight times more likely to reach conclusions that favour commercial sponsors, when compared to articles funded by other sources [49].

5.0 Industry interests in gambling research

In the context of ongoing expansions in gambling technologies and industries, there has been less attention to industry practices and little systematic data is available. Nonetheless, there are growing concerns about commercial influences [9-11], which mainly emphasise the impacts of funding on the agenda for research, and bias towards studies of problem gambling behaviours and pathologies (including appraisals of prevalence and interventions for problem or disordered gambling). Such concerns are supported by preliminary research comprising interviews with industry representatives, researchers and policy makers [50, 51]. These narrative accounts have

also suggested biases towards production of relatively ‘safe’ studies of problem gambling, and attributions of such to commercial interests of the gambling industry.

Literature suggests at least two reasons why industry favoured research agendas prioritise studies of problem gambling. First is that such studies will underestimate the extent of harm from gambling. By way of illustration, research indicates only 15% of the total harm from gambling that is attributable to severe cases of problem gambling, with most harm linked to larger numbers exhibiting problems that are low to moderate in severity [6]. Harms from gambling also reflect impacts on other people (e.g., family members), and studies suggest greater numbers of households affected by gambling (around 11%) [52], relative to problem gambling rates among individuals (closer to 1%) [53]. Problem gambling research typically excludes these harms and supports arguments that consequences are confined to small numbers of people. This messaging has been observed in gambling industry documents [54, 55], and informs advocacy against population-level strategies that affect the supposedly large majority of individuals. This is analogous to ways in which the alcohol industry has argued that alcohol harms are limited to a minority of ‘problem drinkers’, and thus opposed population-wide policies that threaten financial interests [44].

Second is that studies which prioritise problem gambling direct attention *towards* individual determinants and indicators of harm, and *away from* the characteristics of gambling activities and environments. This is comparable to ways in which the tobacco industry sponsored research on contributions of genes and stress to cancer, and used these to minimise the role of smoking and suggest alternative targets for intervention [29]. By way of analogy, problem gamblers generally exhibit high levels of other psychiatric disorders [56], while studies suggest cognitive and

neurobiological mechanisms that are shared with comorbidities [57]. These findings emphasise psychiatric vulnerabilities to gambling problems and prioritise intrapersonal targets for intervention (e.g., through psychological or pharmacological therapies). Notwithstanding the value of such interventions, there are additional characteristics of gambling activities (e.g., stake size) and environments (e.g., advertising practices) that suggest population-level policies that could also improve well-being. However, in the context of scant public money for relevant research, it is likely that industry funding of research on individually-focussed interventions will over-populate the evidence-base that informs policy making. Assuming such interventions are also intended to have minimal impacts on revenue, then these may be weak or ineffective. In contrast, policies that could result in greater reductions in harm (and may help people who are not in contact with relevant services) will be subject to less consideration and delay. Similar strategies have been documented in relation to other industries and have enabled the delay of health innovations (e.g., standardised packing of tobacco products) [58].

Further parallels across industries relate to activities of third-party organisations and SAPROs. In the UK, for example, the Senet Group is funded by industry [59] and is comparable to the alcohol industry's Portman Group. GambleAware is another third-party organisation which is advertised as an independent charity, but is funded by industry and includes representation from gambling and alcohol industries at trustee level [60]. Notwithstanding commercial linkages, GambleAware has a formal role in producing research on behalf of government (via the industry regulator) [61], and thus affords industry with routine involvement in evidence production. Although there have been no systematic evaluations of this evidence, there are indications of negative outcomes from situating

a commercially sponsored body as a commissioner of research. For example, a cursory examination of completed projects (excluding reviews and non-empirical activities) on the GambleAware website [62] indicates only 24 studies involving primary or secondary data (and thus small amounts of evidence in absolute terms), while almost 80% of projects (19/24) were awarded to contract research organisations or think tanks (consistent with tobacco and alcohol industry practices) [25, 37]. This is despite mechanisms that ostensibly support independence. These include a research committee comprising members with eminent reputations (but no domain expertise in gambling research), a research oversight panel including international researchers who have declared interests with the gambling industry, and a separate advisory body that determines priorities for large programmes (and also includes members who are beneficiaries of industry funding) [63]. Such ostensible ‘firewalls’ from industry characterise gambling SAPROs in other parts of the world (such as the National Centre for Responsible Gambling in the US), and have also been criticised for providing weak protections that benefit industry rather than research [64].

In the absence of substantial research on corporate practices, there is much about the nature of industry involvement in gambling research which remains unclear. However, there are reasons to suggest that this literature may be particularly vulnerable to vested influences. For example, while tobacco companies were forced to react to scrutiny following lawsuits, the alcohol and gambling industries have had advance opportunities to frame issues and normalise involvement in research. These have occurred in the absence of much recognition of the risks of such involvements, and organised responses from the public health field [65]. There also continues to be limited public money for gambling research, with scant funding expected to magnify distortions from selective commissioning of industry research [66]. Finally, the

gambling industry maintains high levels of control over access to gambling products and venues, and thus has additional means of influencing evidence by providing selective access. Difficulties accessing gambling data are provided as a reason for researchers to work in partnership with industry [14], but do not address the negative consequences of such partnerships. Alternative ways of overcoming these obstacles include policies requiring access to venues and data as a condition of licensing [10, 51].

6.0 *Conclusions*

Indications of parallel practices across hazardous consumption industries provide grounds for strong concern about commercial influences on gambling research. They contradict claims that such concerns comprise ‘conspiracy theories’ [13] which thus lack credible bases. However, there remains a need for further empirical analyses of gambling industry tactics, including through stakeholder interviews, documentary analyses of industry material, and systematic reviews comparing studies with and without commercial linkages. This also signals the need for increased public funding for gambling research, and development of credible structures to protect research from the economic interests of companies. Ostensibly independent research committees (situated within industry sponsored organisations) provide weak responses to vested interests, and stronger measures are required. These would involve all industry representatives (including third parties with industry relationships) being excluded from any role in determining priorities or commissioning studies on behalf of government or health agencies. Commissioning structures may comprise non-statutory bodies that are established and funded by government to produce research, and have no industry representation at any level of organisation. Such bodies should also be allowed maximum independence from

government, which are additional beneficiaries of gambling via taxation. These protections seem particularly important in countries where government is a supplier of gambling activities, and thus where lines with industry are blurred.

This paper applies logic based on parallel evidence about tobacco and alcohol industries, and supports precautionary approaches to managing and responding to commercial interests in gambling research. These may include specific responses to industry influences that have been proposed recently, and comprise the development of codes of conduct for research on gambling and disclosure statements [10]. There should also be endeavours to develop and evaluate suitable models of engagement with industry that can guide gambling researchers. These have been discussed in the context of alcohol research [42, 67], and may extend from models of complete non-engagement (assuming that economic interests of industry are incompatible with public health) to active collaboration with conflict of interest declarations. In between are models of ‘conditions of cooperation’ under which relationships with industry may be acceptable versus hazardous. Adams [16], for example, provides a useful framework for appraising factors that determine hazards of industry relationships, and include the extent of funding and nature of linkages (e.g., direct versus indirect). Considerations also comprise the degree of divergence between purposes of industry (e.g., to maximise profits) and research (e.g., to enhance public health), and the extent of relevant harms. The latter acknowledges varying consequences from different forms of consumption (for example, high intensity gambling machines are generally associated with greater harms than low intensity activities), but can be broadened to include impacts on the information environment that informs policy making. In the UK, for example, decisions to engage with industry help sustain a system that affords

routine commercial influences on evidence production, and researchers should consider the likely consequences for public health.

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