

Policy implications of the extent, nature and effects of young people's exposure to alcohol promotion in sports-related contexts

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Abstract

Sports-related alcohol promotion is a primary mechanism via which young people are exposed to alcohol advertising. Efforts to reduce this exposure need to be informed by information relating to: 1) the prevalence of sports-related alcohol promotion in live, broadcast and online contexts; 2) the nature of this promotion; 3) the effects on young people of exposure to these forms of alcohol promotion; and 4) evidence-based strategies that have been demonstrated to address alcohol promotion activities that connect alcohol with sport. The aim of the present study was to synthesise available data on these issues to provide insights into the range of regulatory options that are likely to be most effective in restricting alcohol promotion in sports-related contexts. A narrative review approach was used to capture a broad range of relevant literature. Evidence from Australia, New Zealand and around the world shows that more restrictive alcohol promotion regulation is needed due to the known harms associated with youth alcohol consumption, the sheer volume of alcohol advertising to which young people are exposed and recent changes in the platforms used by alcohol marketers to promote their products. The following specific regulatory changes are among those recommended to reduce young people's exposure to sports-related alcohol advertising: removal of timing exemptions that permit alcohol promotion during televised sporting programming regardless of the time of day; redefinition of children's viewing times to reflect children's actual viewing habits; the explicit inclusion of sponsorship within advertising codes; the banning of online alcohol promotion due to the inability to implement effective access restrictions; and the introduction of mandatory regulations that are developed and implemented in alignment with public health interests.

Keywords

Alcohol; advertising; promotion; media; regulation.

Alcohol is a primary contributor to ill-health. It is estimated to cause almost 6 percent of deaths worldwide (WHO, 2014) and, in Australia, it has been identified as the third leading contributor to the burden of disease, behind tobacco and obesity (Australian Institute of Health and Welfare (AIHW), 2016). The use of alcohol among children and adolescents is

of particular concern due to the growing evidence linking early initiation of alcohol use and heavy alcohol consumption during adolescence with a range of negative outcomes, including suboptimal brain development, higher levels of suicidal ideation and the development of alcohol use disorders (Addolorato et al., 2018; Baiden et al., 2019; Kaarre et al., 2018).

Through its provision and promotion of alcohol, the alcohol industry is recognised as a vector of disease (Babor et al., 2010; Gilmore et al., 2011). As a result, there is substantial and growing concern over the methods used by the industry to promote alcohol, especially to minors (Babor et al., 2013; Casswell, 2012; Esser and Jernigan, 2014; Ferreira-Borges et al., 2015; Gallopel-Morvan et al., 2017; Goldfarb and Tucker, 2011; Jones et al., 2014; Noel and Babor, 2017a; Noel et al., 2017a; Pierce et al., 2019; Reeve, 2018; Smith et al., 2013; Vendrame, 2017). A lack of mandatory reporting of advertising expenditure prevents a full understanding of the extent of promotional activity, but Australian estimates indicate more than \$200 million is spent on alcohol promotion per annum, with a clear migration occurring over time away from more heavily regulated media (mainly television) towards other forms of promotion that are subject to fewer restrictions (White et al., 2015).

Sports-related alcohol promotion has been identified as especially problematic for several reasons. First, existing advertising codes around the world—including the Alcohol Beverages Advertising Code (ABAC) in Australia—often exclude sponsorship arrangements (Hastings et al., 2010; Pierce et al., 2019; Reeve, 2018), thereby allowing alcohol companies to invest in such sponsorships in a largely unfettered manner. Second, sporting events, whether live or televised, are popular among children and young people, providing alcohol marketers with direct access to these groups and bypassing restrictions that limit their ability to reach these audiences via other promotional strategies (Cody and Jackson, 2014; Ireland et al., 2019). As well as encouraging current consumption, exposing children and young people to advertising can also have long-term effects by triggering automatic positive product evaluations throughout their adult lives (Connell et al., 2014). Finally, it is posited that sponsorship of popular sporting events has the capacity to embed alcohol products in sociocultural contexts and to do so via implicit associations that prevent counterargument (Cody and Jackson, 2014; Gee, 2013; Gee et al., 2016; Zerhouni et al., 2019). These concerns are reflected in long-standing debates about the adverse outcomes associated with the promotion of various other unhealthy products (e.g., tobacco, gambling, unhealthy foods) via sports sponsorship (Chambers and Sassi, 2019; Ireland et al., 2019; Macniven et al., 2015).

Effective policy development relating to the promotion of alcohol in sporting contexts requires appreciation of the nature and impacts of this form of alcohol marketing. Specific required information inputs include: 1) the prevalence of sports-related alcohol

promotion in live, broadcast and online contexts; 2) the nature of this promotion (e.g., field signage, players' uniforms, commentary and in-break advertising); and 3) the effects on young people of exposure to these forms of alcohol promotion. The aim of the present study was to synthesise available data on these issues to provide insights into the range of regulatory options that are likely to be most effective in addressing alcohol promotion in sports-related contexts.

Background: The Alcohol Promotion Regulatory Environment

When attempting to restrict alcohol promotion, governments have three main options: mandatory regulation, co-regulation and self-regulation. Countries with stricter alcohol advertising restrictions have been found to have lower levels of hazardous drinking (Bosque-Prous et al., 2014). However, the use of mandatory regulation alone is uncommon, with most countries that have introduced some form of alcohol advertising regulation choosing to implement co-regulatory or self-regulatory alternatives (see the World Health Organisation's Global Health Observatory Data Repository for the status of alcohol advertising restrictions around the world; World Health Organisation (WHO), 2018a). The French Loi Évin (Évin law) is often proffered as an example of a workable mandatory system that limits advertising to the provision of factual information using specified media platforms (Casswell, 2012; Jones and Gordon, 2013; Noel et al., 2017a; Smith et al., 2013). The weakest form of regulation, self-regulation, has frequently been criticised as ineffective in the context of preventing young people from exposure to alcohol promotion (Babor et al., 2013; Bosque-Prous et al., 2014; Hastings et al., 2010; Noel and Babor, 2017b; Noel et al., 2017a, 2017b; Searle et al., 2014; Smith et al., 2013; Vendrame et al., 2015).

Previous research highlighting the relationship between advertising exposure and subsequent alcohol consumption has predominantly focused on those below the legal drinking age (Esser and Jernigan, 2018). Children (i.e., those aged under 18 years) and young adults (18–25 years) are particularly at risk of alcohol-related harm due to the potential impacts of alcohol on brain development (Babor et al., 2017; Chambers et al., 2018). A further consideration is that children may be more easily persuaded by alcohol advertising as they do not yet have the experience to recognise the overly glamorised manner in which drinking is often portrayed (Babor et al., 2017). The extent of exposure to alcohol advertising among children has been found

to differ by gender, with males typically experiencing higher levels of exposure than females due to their greater viewership of sports-related content (Lillard et al., 2018). When compared with females, males have also been found to rate beer advertisements as being more influential—potentially due to the tendency of these advertisements to depict masculine activities (Chen et al., 2006).

The harms from alcohol advertising may be magnified among subgroups experiencing disadvantage, such as children of lower socioeconomic status, who tend to watch more television and are therefore exposed to more alcohol advertising broadcast via this medium (Cillero and Jago, 2010; Roche et al., 2015). In addition, youths from migrant or refugee backgrounds can be at increased risk of heavy alcohol consumption and harm where alcohol is used to cope with the stressors associated with acculturation and the experience of migration and as a mechanism to adapt to social norms and fit in with peers (Horyniak et al., 2016). While Aboriginal and Torres Strait Islander people in Australia are less likely to drink alcohol than non-Indigenous people, they are at a greater risk of experiencing alcohol-related harms (d'Abbs et al., 2019). Across these and other vulnerable groups, it is critical for effective controls to be in place to provide adequate protection from harmful exposure to alcohol promotion (Babor et al., 2017; Roche et al., 2015).

Alcohol Advertising in Sport

The largely self-regulated systems that have been introduced in many countries permit various forms of alcohol marketing that feature associations between alcohol and sport (Pierce et al., 2019). In Australia, the main restriction on alcohol advertising on free-to-air television is the Australian Communications and Media Authority's mandatory requirement to avoid broadcasting alcohol advertisements during children's viewing times, which are generally prior to the watershed time of 8.30pm (Free TV Australia, 2018). However, a substantial exemption exists in that alcohol promotion is permitted at any time if occurring during a 'sports program' or a 'live sporting event'. In terms of alcohol advertising content and placement, the voluntary and self-regulatory Australian ABAC has only one provision relating to sport, and this includes reference to numerous other advertising themes: 'A Marketing Communication must NOT show (visibly, audibly or by direct implication) the consumption or presence of an Alcohol Beverage as a cause of or contributing to the achievement of personal, business, social, sporting, sexual or other success.' Further, it is explicitly stated in the ABAC

that it does not apply to sponsorship arrangements (ABAC Scheme, 2017). The New Zealand code has a similar provision relating to sporting success, but also includes other provisions that place some limits on the extent to which alcohol sponsorships can be highlighted in alcohol advertising (Advertising Standards Authority (ASA), 2018).

Method

A narrative review approach was used to capture a broad range of relevant literature (Ferrari, 2015). This approach involved an initial search strategy encompassing specific keywords to identify relevant prior research relating to the nature and effects of sports-related alcohol promotion. The search terms 'alcohol' and 'sport' were used in combination with the following terms: 'market*', 'promot*', 'advertis*', 'sponsor*', 'media', 'social media', 'televis*', 'regulat*', 'policy', 'smartphone' and 'mobile'. The databases searched included CINAHL Plus, PubMed, Scopus, PsycINFO and Google Scholar. Empirical studies, systematic reviews and commentaries were included in the resulting body of reviewed work. Further literature searches were then undertaken across the academic and grey literatures to provide background information on the broader relationship between alcohol promotion and alcohol-related behaviours and the various policy recommendations that have been made to address current levels of youth exposure to alcohol promotion.

The literature search was confined to English-language publications, and research published over the previous five years was prioritised to provide access to the most recent findings, although other work was included where it was deemed relevant. Almost all of the identified documents were found within the peer-reviewed literature, with the exception of those relating to alcohol advertising regulations and other background data (e.g., internet usage statistics).

Results

The research conducted to date in the area of alcohol marketing in sports-related contexts has tended to take two main approaches: 1) analyses of the extent of exposure to alcohol promotion during live sporting events and broadcasts; and 2) analyses of digital forms of alcohol marketing that include sporting themes. The results of recent studies using these approaches are outlined below, followed by a discussion of the implications of sports-related alcohol promotion for youth alcohol consumption. However, one study using an alternative approach

is worthy of mention first due to its innovative data collection methodology and comprehensive capture of relevant data. Chambers et al. (2018, 2019) attached wearable cameras to 167 New Zealand children aged 11–13 years, who wore the devices for four days. The resulting dataset included 700,000 images that were analysed to identify the extent of the children's exposure to alcohol advertising. On average, the children participating in the study were exposed to 4.5 alcohol ads per day, one-third of which (1.4 per day) related to sports sponsorship. Sporting venues were the location of 12 percent of all exposures to alcohol advertising over the data collection period (Chambers et al., 2018). These results highlight the extent of young people's contact with sports-related alcohol promotion and the need to address this through appropriate regulatory frameworks.

Alcohol promotion during sporting events and sports-related programming

Most research involving the measurement of alcohol promotion during sporting events has focused on sports involving male athletes, and the most common forms of sport investigated have been various codes of football—for example, soccer, Australian Football League (AFL), rugby union and rugby league—and motorsports. These areas of focus are likely to reflect a disproportionate amount of alcohol promotion in these sports (e.g., 83 percent of the 18 AFL teams in Australia are sponsored by alcohol brands; Sartori et al., 2018). It has been found that males are more likely than females to be exposed to alcohol advertising, which has been partially attributed to their greater exposure to sports-related television programming that includes alcohol messaging (Lillard et al., 2018).

Table 1 summarises the results of studies assessing the quantity of alcohol messaging occurring within specific broadcast sporting events (Adams et al., 2014; Barker et al., 2018; Carr et al., 2016; Chambers et al., 2017; Fajak and Frawley, 2016; Gee et al., 2017; Graham and Adams, 2014; Kelly et al., 2015; MacLean et al., 2017; O'Brien et al., 2015a; Purves et al., 2017). The results show very high levels of alcohol promotion exposure among television audiences, with audiences typically exposed to a minimum of one alcohol reference per minute during sporting events. These and other studies have also demonstrated that beer (and, to a lesser extent, spirits) is the alcohol product category that is most likely to be promoted via an association with sport (Fajak and Frawley, 2016; O'Brien et al., 2015a; Vasiljevic et al., 2018).

The very high frequency of alcohol promotion during sporting events needs to be considered in the context of children's exposure to these events. Pierce et al. (2019) sourced children's television viewing data for a range of sporting events broadcast on Australian free-to-air television. It was found that large numbers of children viewed sporting events: in 2017, more than 300,000 watched each of several major football code events (e.g., rugby league State of Origin games and the AFL grand final); 171,825 watched a tennis final; 143,950 watched the Melbourne Cup (horseracing); 121,435 watched a cricket final; and 119,585 watched a car racing championship. The loophole allowing alcohol advertisements to be broadcast during sporting events is therefore resulting in millions of child exposures to alcohol advertising each year. A further consideration is that brands and advertising themes (e.g., humour and popular music) that resonate with young people have been found to be overrepresented in sports-related alcohol promotion (Belt et al., 2014; Kelly et al., 2015).

Sports-related alcohol promotion on social media and other online platforms

Youth in general exhibit very high levels of internet use (e.g., 98 percent of 15–17-year-olds in Australia; Australian Bureau of Statistics (ABS), 2018) and most have social media subscriptions (e.g., 94 percent of 12–24-year-olds in Australia; Statista, 2019). This high level of online presence makes young children especially vulnerable to alcohol marketing in online spaces (McClure et al., 2016). Alcohol is promoted online via various mechanisms, including: 1) alcohol companies' websites; 2) alcohol companies' social media accounts (e.g., Facebook, Instagram, Twitter and YouTube); 3) online advertising across a broad range of internet sites (e.g., entertainment and news sites) and social media platforms; and 4) advertisements served to users' mobile devices (Carah et al., 2018; Gupta et al., 2017, 2018a, 2018b; World Health Organisation (WHO), 2019). There is the potential for alcohol promotion delivered by each of these mechanisms to capitalise on and reinforce the association between alcohol and sport, thereby encouraging alcohol consumption among young people.

The literature examining sports-related content in online alcohol promotion is limited, and the work to date has primarily focused on promotion via social media platforms. Research on the content of alcohol companies' social media pages across Australia, India, the United Kingdom (UK) and Canada demonstrates that substantial amounts of sport-related content are produced, and that this

Table 1. Extent of alcohol promotion during televised sporting events.

Authors (year)	Country	Sport	Frequency	Main location (% of total alcohol advertising where available)	Main beverage type (% of total alcohol advertising where available)
Adams et al. (2014)	United Kingdom	Soccer	1.24 visual references to alcohol per minute across 1,487 minutes of programming	'Pitch-side' – within or alongside the playing field (89%)	Beer (99%)
Barker et al. (2018)	United Kingdom	Formula One Motor Racing	Alcohol references present in 46% of 833 one-minute coding intervals	Billboards and on-car advertising	Johnnie Walker brand, with 874 exposures across 132 intervals
Carr et al. (2016)	Australia	AFL, cricket and rugby league	3,544 in-break advertisements for alcohol across 751 sporting games (1,942 AFL, 941 cricket, 661 rugby league)	In-break advertisements	–
Chambers et al. (2017)	New Zealand	Rugby league, tennis, football and cricket	1.6 to 3.8 references to alcohol per minute across five sporting event broadcasts	Advertising hoardings alongside play area	Beer – most common sponsor type
Fujak and Frawley (2016)	Australia	AFL and rugby league	Alcohol advertising comprised 7.5% and 2.7% of total in-break advertising in AFL and rugby league broadcasts, respectively	In-break advertisements only	Beer: Carlton Draught in AFL (65%) and VB in rugby league (67%)
Gee et al. (2017)	New Zealand	Rugby (World Cup and Wellington Sevens), tennis and cricket	180 logo appearances of major alcohol brands per hour in Rugby World Cup broadcast, 177 per hour in tennis, 149 per hour in cricket and 64 per hour in Wellington Sevens broadcast	Billboards for rugby (67–72% across the two rugby codes), player uniforms for cricket (68%) and stadium signage for tennis (58%)	Beer
Graham and Adams (2014)	United Kingdom	Soccer	111.3 visual references to alcohol per hour across 1,101 minutes of programming	Billboards (44%)	Beer (99%)
Kelly et al. (2015)	Australia	AFL, rugby league, horseracing and cricket	Alcohol advertising comprised 11% to 21% of total in-break advertising across the four sporting event broadcasts	In-break advertisements only	Beer – most common sponsor type
MacLean et al. (2017)	USA	Football (NFL Super Bowl)	13% of in-break advertisements contained references to alcohol (across 103 unique advertisements)	In-break advertisements only	Beer and/or wine – each present in 8% of total advertisements

Table 1. Extent of alcohol promotion during televised sporting events.

Authors (year)	Country	Sport	Frequency	Main location (% of total alcohol advertising where available)	Main beverage type (% of total alcohol advertising where available)
O'Brien et al. (2015a)	Europe	Formula One Motor Racing (Grand Prix)	10.8 visual references to alcohol per minute across 284 minutes of programming	Track signage (88%)	Spirits and vermouths (97%)
Purves et al. (2017)	United Kingdom	Soccer	0.65 alcohol marketing references per minute (across 55.6 hours of programming)	Border of the pitch (78%)	Beer: Carlsberg brand comprising 61% of specific brand references

Note: AFL = Australian Football League. NFL = National Football League.

content is tailored to the idiosyncrasies of national sporting cultures (Atkinson et al., 2017; Carah et al., 2014; Geurin and Gee, 2014; Gupta et al., 2017, 2018a, 2018b; Westberg et al., 2018). In the case of research specific to Australia, mentions of sport were often found to allude to sporting success, despite the voluntary, self-regulated ABAC system prohibiting this form of promotion (Gupta et al., 2018b).

Westberg et al.'s (2018) analysis of the Facebook and Twitter accounts of major sponsors of the three largest Australian spectator sports (AFL, rugby league and cricket) identified specific aspects of social media promotional techniques involving sport that have the potential to make this form of alcohol promotion particularly problematic, especially for young people. The authors noted that the elements of interactivity, shareability among networks and superior ability to convey 'calls to action' relative to other advertising media make social media advertising highly potent. When combined with the socially embedded nature of sport and sporting heroes, these elements were described as providing alcohol marketers with substantial leverage to attract and influence young people.

Effects of exposure to alcohol promotion in sports-related contexts

As noted above, the cross-sectional and longitudinal evidence demonstrating associations between exposure to alcohol promotion and the alcohol-related

attitudes and behaviours of young people is now substantial (e.g., Anderson et al., 2009; Boyle et al., 2016; Critchlow et al., 2016, 2019a, 2019b; de Bruijn et al., 2016; Jernigan et al., 2017; McClure et al., 2013; Smith and Foxcroft, 2009) and, as such, is considered adequately strong to justify more restrictive approaches to alcohol promotion regulation (O'Brien and Carr, 2016). Specifically, it has been found that higher levels of exposure to alcohol promotion at baseline are associated with subsequent increased likelihood of early initiation of alcohol consumption, higher levels of alcohol intake and problematic drinking (Anderson et al., 2009; de Bruijn et al., 2016; Jernigan et al., 2017; Smith and Foxcroft, 2009). However, these effects have not been well studied within particular subgroups of young people, such as those from Indigenous or migrant backgrounds, and further research is needed to assess the specific implications for vulnerable groups.

In addition, most research to date on the effects of exposure to alcohol promotion has examined alcohol advertising in general and relatively little work has focused on the outcomes specifically around sports-related communications. Consistent with the broader body of work, the limited research on alcohol promotion in sporting-related contexts indicates that exposure results in young people: 1) associating sport with both alcohol in general and particular products and brands (Bestman et al., 2015; Houghton et al., 2014; Pettigrew et al., 2013b); and 2) being more likely to consume alcohol more frequently and to engage in heavy episodic drinking (de Bruijn et al., 2016). In

addition, studies of the drinking behaviours of university and community club athletes have found that those sponsored by alcohol companies are more likely than other athletes to engage in hazardous levels of alcohol consumption (for a review, see Brown, 2016).

Researchers have speculated about the likely mechanisms via which alcohol promotion in sporting-related contexts influence attitudes and behaviours. In accordance with work demonstrating the substantial effects of unconscious processing of marketing stimuli (Chartrand and Fitzsimons, 2011; Williams and Poehlman, 2017), sports-related alcohol promotion has been found to create favourable implicit attitudes to alcohol products by facilitating the transfer of positive feelings about the sponsored team to the sponsoring product/organisation (Kelly et al., 2016; Zerhouni et al., 2016, 2019). This unconscious processing is considered to be highly problematic because it produces a 'mere exposure effect' that prevents audiences from recruiting the cognitive defences that are needed to protect them from being adversely influenced by advertising while immersed in sports-related contexts (Lindsay et al., 2013; Zerhouni et al., 2016).

Policy implications

Across the studies reviewed above, there were consistent findings that young people are being exposed to a large amount of alcohol promotion that associates alcohol products and alcohol consumption with sport, and that this exposure influences their alcohol-related beliefs and behaviours. As a consequence, strong and repeated support is expressed in the literature for regulatory change to minimise levels of exposure to alcohol promotion and reduce alcohol-related harms among young people and the population in general (Carr et al., 2016; Chambers et al., 2017, 2018; Godlee, 2014; Gornall, 2014; Graham and Adams, 2014; Jones and Gordon, 2013; Macniven et al., 2015; O'Brien and Carr, 2016; O'Brien and Chikritzhs, 2017; Pierce et al., 2019; Reeve, 2018; Sartori et al., 2018; Vandenberg and Chapman, 2015). Previous research has found restrictions on alcohol promotion are a highly cost-effective form of alcohol control (Chisholm et al., 2018), which is recognised in Australia's *Draft Alcohol Strategy 2018–2026* (Department of Health, 2018). However, various factors appear to dampen policymakers' enthusiasm for greater regulatory control over alcohol promotion. The following sections outline the barriers that are likely to constrain regulatory reform and the range of options that exist for policymakers to consider in the context of the current state of the evidence and identified barriers.

Barriers to regulatory change

O'Brien and colleagues (O'Brien and Carr, 2016; O'Brien and Chikritzhs, 2017) cogently argue that the evidence relating to the effects of alcohol promotion on the alcohol-related attitudes and behaviours of young people is now so strong that an important area for future research is the identification of factors preventing the implementation of the regulatory reform needed to reduce exposure to alcohol promotion. Recent research suggests that the main barriers are likely to include both technical and political factors.

Identified technical barriers relate primarily to online methods of alcohol promotion. The online environment is especially difficult to manage because it is ephemeral, rapidly evolving and international in nature (WHO, 2019). Digital ads can be highly targeted and brief in lifespan, preventing observers from non-target groups (e.g., researchers) from being able to locate, document and analyse these communications. The continuing emergence of new media platforms makes it difficult to anticipate and regulate the forms of online advertising that are likely to exist in the future (Esser and Jernigan, 2014, 2018). For example, algorithms can now be used to target mobile phone users with alcohol-related messages when they are in close proximity to venues such as sporting arenas (Carah et al., 2018). This form of push advertising will require consideration in future alcohol promotion regulations. The transborder nature of the internet and the lack of international regulations relating to alcohol promotion limit the ability of individual countries to manage young people's exposure (Casswell, 2012; Esser and Jernigan, 2014; Nelson, 2010; Paukštė et al., 2014). This situation has led to calls for the establishment of an alcohol equivalent to the Framework Convention on Tobacco, which has helped reduce smoking rates around the world (Casswell, 2012; Esser and Jernigan, 2014; Moodie et al., 2013; Yeung and Lam, 2019). A further consideration is that the poorly regulated online alcohol promotion compromises the development of effective controls on offline alcohol promotion because of the ability of marketers to redirect their advertising allocations to online media to avoid more restrictive media channels (Goldfarb and Tucker, 2011). As such, the effective control of online alcohol promotion is critical to addressing young people's total exposure to messages that influence their alcohol-related beliefs and behaviours.

The political barriers that have been identified in the literature primarily relate to strong industry resistance to any increases in alcohol promotion regulation (Ferreira-Borges et al., 2015; Paukštė et al., 2014; Pettigrew et al., 2018; Thamarangsi, 2009;

Vendrame, 2017). A secondary issue is the complexities associated with introducing multilevel regulatory approaches that involve governments at local, state and federal levels, along with individual sporting teams, peak sporting bodies and sporting venues (Graham and Adams, 2014; Heung et al., 2012). A third issue is that the sale and promotion of alcohol are legal, which complicates policymakers' efforts to limit or prohibit specific types of alcohol promotion, including those relating to sport (Batty and Gee, 2019).

Policy options

Various recommendations have been made in the literature to address the harms associated with alcohol promotion strategies that connect alcohol with sport. In countries such as Australia and New Zealand that have largely self-regulated systems of alcohol advertising control, the recommended approaches range from those representing modifications of the existing systems to those involving a complete restructure to replace existing codes with alternative forms of regulation. These recommended approaches are summarised below, listed in order of least to most restrictive.

System modification options

Options for enhancing current systems of alcohol promotion restrictions include: 1) strengthening the provisions of existing codes; 2) extending the codes through the inclusion of additional provisions; and 3) changing code governance arrangements.

Strengthening provisions Evidence-based recommendations relating to strengthening provisions typically focus on the permitted timing of televised alcohol promotion. In particular, there are consistent and repeated calls to remove the daytime sports programming exemption that results in large numbers of children being exposed to alcohol advertising on television (Carr et al., 2016; Chambers et al., 2017; O'Brien et al., 2015b; Pierce et al., 2019). This loophole is difficult to justify given that it directly violates the intent of the Australian Communications and Media Authority's watershed requirement that specifies no alcohol advertising on free-to-air television before 8.30pm. Related recommendations are those involving a later watershed time because the current timing does not reflect children's actual viewing habits (Carr et al., 2016), and the redefinition of children's viewing time to account for the fact that children are a minority of the population and will therefore usually be a minority

of a program audience, despite being present in large numbers (O'Brien et al., 2015b; Reeve, 2018).

Code extensions One of the most consistently recommended forms of code extension is the explicit inclusion of sports sponsorship (Esser and Jernigan, 2018; Ireland et al., 2019; Pettigrew et al., 2013b; Pierce et al., 2017, 2019; Sartori et al., 2018). Sports sponsorship is one of the key ways in which young people are exposed to alcohol promotion (Critchlow et al., 2019b) and it is frequently described as an especially problematic form of alcohol promotion because of its embedded nature, its ability to capitalise on implicit associations created via subconscious processing and its ability to circumvent current alcohol advertising regulations (Ireland et al., 2019; O'Brien and Chikritzhs, 2017; Pettigrew et al., 2018; Pierce et al., 2019). As such, there is an identified need for alcohol advertising codes to recognise the existence and power of this form of alcohol promotion and to restrict sponsorship activities accordingly. This includes ensuring coverage of sponsorships involving zero percent alcohol products due to the potential for audiences, especially younger audiences, to generalise sponsorship messages to companies' alcohol products (Barker et al., 2018).

Other recommendations relating to code extension involve mandatory ad pre-screening (Heung et al., 2012) and efforts to regulate both the volume and the content of alcohol promotion (Heung et al., 2012; Jones and Gordon, 2013; Reeve, 2018). These recommendations are not specific to sports-related alcohol promotion but would have implications for the extent to which alcohol companies could promote their products in general, including in sporting contexts. In terms of the volume of alcohol promotion, the existing voluntary codes in Australia and New Zealand place some restrictions on the content of ads but make no attempt to limit the total quantity of alcohol promotion. The studies summarised above clearly show that the outcome of this omission is that young people are exposed to a large quantity of alcohol promotion. Other than the implementation of total advertising bans (discussed further below), there does not appear to be any practical solution for how volume restrictions could be implemented. One mechanism that has the potential to reduce the volume of alcohol promotion is the requirement for warnings to accompany all advertisements. This approach accommodates 'free speech' entitlements by applying associated 'forced speech' requirements that ensure consumers are provided with more complete information about the consequences of alcohol consumption (Padon and Rimal, 2017). It seems likely that alcohol marketers would choose to be more

selective in their advertising if all promotional messages had to be accompanied by a product warning.

Given the substantial amount of online alcohol advertising that uses sports-related content (Atkinson et al., 2017; Carah et al., 2014; Geurin and Gee, 2014; Gupta et al., 2017, 2018a, 2018b; Westberg et al., 2018), a further important area of code extension involves online alcohol promotion. Studies investigating the effectiveness of age restrictions show that children have ready access to alcohol-related content on social media and current efforts by the industry to implement age gates are largely ineffective due to a reliance on self-reporting of age (Barry et al., 2016; Carrotte et al., 2016; D'Amico et al., 2017; Jones et al., 2014). However, even self-identifying as a minor does not protect young people from alcohol promotion on some platforms. Barry et al. (2016) created fake profiles for minors on social media accounts and used them to interact with alcohol brand content on Twitter and Instagram. They found that, while Twitter prevented those self-identifying as minors from accessing alcohol-related content, there were no such barriers on Instagram, and the fake accounts received around 12–13 updates from alcohol brands per day. The social media updates received by minors may also be targeted, whereby predictive algorithms are used to identify the types of content with which these users are interacting, such as sporting events, and deliver ads for alcohol brands associated with these events (Atkinson et al., 2017). This issue is complicated by the tendency of some young people to provide false ages on their social media accounts and for many social media users to accept privacy policies when signing up for these services, effectively allowing their personal information to be used for advertising purposes (Custers et al., 2014).

These issues have resulted in calls for the development of more comprehensive and effective online advertising restrictions (Barry et al., 2016; Carah et al., 2018; Dunlop et al., 2016; Gupta et al., 2018a; Moraes et al., 2014), but the optimal nature of such restrictions has yet to be agreed on. For example, a potential means of overcoming problems associated with young people providing inaccurate age information is to allow alcohol companies to independently verify individuals' ages, but this has substantial privacy implications and is therefore unlikely to be a feasible alternative (Jones et al., 2014).

Changes to code governance arrangements There are two governance aspects that are frequently identified as being problematic: the involvement of the alcohol industry in code development and administration, and the largely voluntary nature of many alcohol promotion regulatory systems. The inherent conflicts of interest associated with industry

participation in code development and administration have resulted in numerous expressions of concern and recommendations for independent oversight (Bosque-Prous et al., 2014; Casswell, 2012; Esser and Jernigan, 2014, 2018; Jones and Gordon, 2013; Noel and Babor, 2017b; Reeve, 2018; Vendrame et al., 2015). Similarly, there is strong agreement based on the available evidence that voluntary regulatory codes are ineffective in protecting young people from exposure to alcohol promotion (Adams et al., 2014; Carr et al., 2016; de Bruijn et al., 2016; Hastings et al., 2010; Jernigan et al., 2017; Jones and Gordon, 2013; O'Brien and Chikritzhs, 2017; Pierce et al., 2019; Sartori et al., 2018; Vandenberg and Chapman, 2015; Vendrame et al., 2015). Large numbers of violations have been found in most studies examining the compliance of alcohol advertisements with operating codes (Babor et al., 2013; Noel and Babor, 2017a; Noel et al., 2017b, 2017c, 2017d; O'Brien et al., 2015a; Searle et al., 2014; Smith et al., 2013; Vendrame et al., 2015).

Due to these limitations, it is argued that a more effective option are government-run systems based on mandatory requirements with appropriate monitoring and enforcement (Heung et al., 2012; Pierce et al., 2019; Reeve, 2018; Vendrame et al., 2015). In the absence of such systems, an alternative approach that avoids industry involvement is a community-based model such as the Alcohol Advertising Review Board (AARB) in Australia (Pettigrew et al., 2013a; Pierce et al., 2017, 2019). The need for independent evaluation is apparent in the outcomes of complaints lodged with the AARB compared with those to the ABAC. Over a recent 12-month period, 78 complaints were assessed by the AARB and 73 by the ABAC. Of these, 72 complaints were upheld at least in part by the AARB panel of voluntary assessors from various fields (e.g. public health, law, education, social services, marketing and research), while only seven were upheld by the ABAC (Public Health Advocacy Institute, 2018). Analyses of the nature of complaints to the AARB have demonstrated that alcohol companies use a range of advertising techniques that are known to appeal to children (Pettigrew et al., 2020a, 2020b). These outcomes are consistent with a previous review across a range of countries that found industry-run alcohol advertising complaints systems are ineffective in identifying and addressing code violations (Noel and Babor, 2017b).

System replacement

The extent of youth exposure to alcohol promotion, the demonstrated adverse effects of this exposure, the limitations of existing voluntary advertising codes and the complexities associated with attempting to regulate and anticipate online advertising have

caused some to propose that existing alcohol promotion codes should be replaced with total alcohol advertising bans (Esser and Jernigan, 2018; Noel et al., 2017b; Parry et al., 2012; Purves et al., 2017; Reeve, 2018; Smith et al., 2013). Such bans have the added benefit of preventing exposure among other groups such as Indigenous peoples and young adults who are of legal drinking age but are still in an important phase of brain development.

Calls for bans vary somewhat, with some focusing just on banning television advertising (Searle et al., 2014), some just on banning sports sponsorship (Chambers and Sassi, 2019; Houghton et al., 2014) and some approving only of the use of limited communications that focus on attributes such as type, price and strength, as per the French Loi Évin model (Smith et al., 2013). Of note is that the Loi Évin has been weakened over time in response to intense lobbying from the alcohol industry and, as a consequence, young people in France continue to be exposed to substantial amounts of alcohol promotion, especially in supermarket contexts (Gallopel-Morvan et al., 2017). However, the Loi Évin model remains an important prototype of possible alcohol promotion regulation because it specifies what is permitted rather than attempting to cover all current and future marketing activities that should be prohibited, and hence is considered superior to other available models (Casswell, 2012; Esser and Jernigan, 2018; Jones and Gordon, 2013; Noel et al., 2017b; Smith et al., 2013).

Of the various bans focusing on specific forms of alcohol promotion proposed in the literature, the total sports sponsorship ban option has considerable support (Chambers and Sassi, 2019; Chambers et al., 2018; Esser and Jernigan, 2018; Ferreira-Borges et al., 2015; Murray et al., 2018; Parry et al., 2012; Purves et al., 2017; Reeve, 2018; Sartori et al., 2018; Smith et al., 2013). Recent international evidence suggests that such a ban would also receive substantial support from the general public, including in Australia and New Zealand (Dekker et al., 2020). It has been noted that this arrangement is feasible at the country level, as demonstrated by this requirement in the Loi Évin (de Bruijn, 2014; Godlee, 2014; Gornall, 2014), although the limitations associated with being unable to influence aspects of international sports broadcasting are recognised (Purves et al., 2017). While concerns have been expressed about a potential loss of income for sporting bodies resulting from prohibiting alcohol sponsorship (Batty and Gee, 2019; Kelly et al., 2017), commentators have pointed to the positive outcomes when tobacco sponsorship was removed from sport (de Bruijn, 2014; O'Brien

et al., 2014). In addition, community members in Australia exhibit majority support for restrictions on alcohol sponsorship of sport, indicating that this may be a widely acceptable strategy to implement (Kelly et al., 2013). It has been suggested that alcohol sponsorships should be replaced with health-promoting sponsorships to enhance outcomes for the community (Belt et al., 2014; Pettigrew et al., 2013b).

There is also a precedent for a ban on online alcohol promotion. In 2015, Finland introduced measures to prohibit various types of promotional activities across the internet, such as those involving messages delivered via mobile phones, tablets and game consoles (WHO, 2019). The prohibited activities include encouraging individuals to engage with or share online advertising, online competitions and promoting products via 'advergaming'. Early evidence suggests that such bans can reduce the amount of restricted content being disseminated but require comprehensive monitoring and enforcement to maximise their effectiveness (Katainen et al., 2020).

Conclusion

Changes to alcohol promotion regulation are much needed due to the known harms associated with youth alcohol consumption, the sheer volume of alcohol advertising to which young people are exposed and changes in the platforms used by alcohol marketers to promote their products. Addressing alcohol promotion in sports-related contexts is an especially important component of such regulatory change. This is due to the heavy exposure of young people to alcohol advertising in these environments and the ability for such promotion to embed alcohol at the sociocultural level via subconscious means, thereby bypassing the cognitive defence mechanisms that may otherwise be employed to protect against the effects of advertising.

In Australia, the importance of upgrading current alcohol advertising restrictions is explicitly mentioned in the Draft Alcohol Strategy (Department of Health, 2018), which notes the need to 'strengthen the codes and operation of them to reduce the exposure of alcohol advertising to young people'. Online and sports-related advertising are listed within the Draft Strategy as particular areas of attention in the development of stronger measures to reduce young people's exposure to alcohol promotion. The evidence reviewed in this paper provides insights into the types of regulatory changes that would facilitate more effective alcohol advertising control to achieve these objectives.

At a minimum, an enhanced regulatory system would need to address the existing sports television broadcasting exemption that facilitates millions of child exposures to sports-related alcohol promotion in Australia each year (Pierce et al., 2019). Effectively closing this loophole would involve ensuring that the revised code applies to all forms of televised sports broadcasting, not just that occurring on free-to-air television. Explicitly including sports sponsorship within the remit of the revised code would also provide greater protections for children and overcome an illogical exclusion from the current ABAC system. Other recommended methods of strengthening the existing system include pushing back the watershed time to reflect children's actual viewing habits and redefining children's viewing time to account for total numbers of children exposed rather than proportion of viewing audience (Carr et al., 2016; O'Brien et al., 2015b; Reeve, 2018).

As evidenced by Chambers et al. (2018, 2019) innovative study involving children in New Zealand using wearable cameras, reducing children's exposure to alcohol promotion (including sports-related promotion) will need to go much further than just focusing on television advertising. Their finding that children are exposed to an average of 4.5 alcohol ads per day, one-third of which (1.4 per day) relate to sports sponsorship, demonstrates that efforts to reduce young people's exposure to alcohol promotion need to address the total volume of advertising. This is beyond the scope of the current regulatory arrangements in Australia and New Zealand. In addition, the constant and increasingly rapid evolution of advertising media makes the Australian and New Zealand systems post-hoc in nature, and therefore constantly out-of-date and inadequate for the purposes for which they were designed.

The weight of the evidence to date is that the most effective regulatory systems are those that ban specific forms of alcohol advertising or all alcohol advertising. By stipulating the limited ways in which alcohol-related information can be communicated to the public, bans avoid the substantial difficulties associated with attempting to list the various types of promotion that are prohibited. In particular, the extensive technical problems associated with monitoring the volume and content of online alcohol promotion could be largely overcome by an online advertising ban. However, the international nature of online advertising will continue to be problematic in any regulatory scenario, highlighting the need for participation in an international framework along the lines of that established for tobacco control (Esser and Jernigan, 2014, 2018).

In the meantime, the question remains why more stringent alcohol advertising restrictions have not been implemented in Australia and New Zealand despite the clear need to address the harms associated with high levels of alcohol promotion and demonstrated public support for stronger regulation (Dekker et al., 2020; Foundation for Alcohol Research and Education (FARE), 2019). A major contributing factor is likely to be the alcohol industry's intense efforts to lobby governments to advocate for self-regulation featuring approaches that have been proven to be ineffective (Babor et al., 2010, 2017). It is clear that the development and implementation of effective alcohol promotion restrictions will require an alternative approach to the self-regulatory systems currently in place in Australia and New Zealand. Extensive national and international research demonstrates the need for independent and mandatory regulation to overcome the well-documented failings of self-regulatory and voluntary approaches. The World Health Organisation (WHO) (2014, 2018b) notes that, along with taxation and availability control measures, alcohol promotion regulation that is guided by public health interests is a vital element of the three 'best buys' for alcohol control to minimise alcohol-related harm, especially among young people.

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