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## Research paper

## Unintended impacts of alcohol restrictions on alcohol and other drug use in Indigenous communities in Queensland (Australia)



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## ABSTRACT

**Background:** ‘Alcohol Management Plans’ (AMPs) with a focus on alcohol restrictions were implemented in 19 discrete Indigenous communities, in 15 Local Government Areas, by the Queensland Government from 2002. Community residents’ perceptions and experiences of the impacts of AMPs on local alcohol and drug use are documented.

**Methods:** A cross-sectional study used quantitative and qualitative survey data collected during 2014–2015 in 10 affected communities. Five had some alcohol available. Five had total prohibition. Participant responses were assessed and compared by prohibition status.

**Results:** Overall, less than 50% of 1098 participants agreed that: i) the restrictions had reduced alcohol availability in their community and ii) that people were drinking less. Nearly three quarters agreed that binge-drinking had increased, attributed to increased availability of illicit alcohol. There were no statistically significant differences between communities with prohibition and those with some access to alcohol. Participants agreed overall that cannabis use had increased but were more equivocal that new drugs were being used. These views were less frequently reported in prohibition communities.

**Conclusions:** Contrary to what was intended, Queensland’s alcohol restrictions in Indigenous communities were viewed by community residents as not significantly reducing the availability and use of alcohol. Furthermore, this was compounded by perceived increases in binge drinking and cannabis use; also unintended. There is a need to strengthen resolve at all levels to reduce the supply of illicit alcohol in restricted areas.

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## Introduction

Indigenous people of Australia, New Zealand, United States and Canada were initially exposed to the recreational consumption of alcohol through colonization (Brady, 2000; Frank, Morres & Ames, 2000; Jankowiak & Bradurd, 2003). This exposure was quickly followed by efforts to limit their access to alcohol by national and local alcohol restrictions with an early focus on prohibition arising from colonial cultures of temperance and/or discrimination (Brady, 2000; Kahn, Hunter, Heather & Tebbutt, 1990).

Across Australia, in recent times, policy instruments known as Alcohol Management Plans (AMPs) have been implemented in discrete remote and very remote communities (Australian Government, 2012; Smith et al., 2013). Based on concerns regarding high

levels of alcohol-related violence in far northern Queensland communities, in 2001, the state premier commissioned a study to inform Government efforts to address these issues. The resultant report by Justice Fitzgerald identified key strategy domains for action and change but cautioned that despite the best of intentions and urgent need for change, government initiatives will “continue to produce unexpected adverse consequences” (Fitzgerald, 2001).

In response to Fitzgerald’s recommendations (Fitzgerald, 2001), the Queensland Government introduced its *Meeting Challenges, Making Choices* (MCMC) policy, affecting 19 Indigenous communities situated within 15 Local Government Areas (LGAs) in Queensland from 2002 onwards (Hudson, 2011; Queensland Government, 2002). The focus of early efforts was on restricting the quantity and types of alcohol that could be legitimately possessed and consumed to immediately address high levels of alcohol misuse and violence. These efforts were to be followed by demand and harm reduction initiatives that included ambitious reforms in governance and the public sector, economic development, improvements in drug and alcohol treatment and rehabilitation services and strategies to

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reduce family violence (Queensland Government, 2002). There is general recognition that these later initiatives were largely unrealized (d'Abbs, 2015; Queensland Government, 2005). In similar settings in rural and remote Australia, supply reduction strategies have resulted in positive outcomes including a reduction in alcohol consumption and violence (d'Abbs & Togni, 2000; Gray, Siggers, Sputore & Bourbon, 2000). Historically, however, strict controls have given rise to unintended adverse consequences. For example, national prohibition in the United States in the early 20th century, while initially reducing alcohol consumption, led to 'bootlegging', drug substitution, and greater demand for more potent alcoholic beverages (Blocker, 2006; Thornton, 1991; Tyrrel, 1997).

By 2009, Queensland's alcohol restrictions had been further tightened (Brady, 2014). Implementation of these disparate and complex controls is more thoroughly described elsewhere (Clough & Bird, 2015). The AMPs, in existence for over twelve years, have been under review by the Queensland Government since October 2012 (Queensland Government, 2015).

As part of an independent evaluation (Clough et al., 2014), this paper gives voice to community residents' perceptions of the impact of this policy specifically on drug and alcohol behaviours. Differences are highlighted between communities where prohibition was enforced from 2009 and where some alcohol remained available on a restricted basis.

## Methods

### Setting

From 2009 in seven of the 19 communities with AMPs all alcohol was prohibited while restrictions on possession and consumption were tightened in the remaining 12 communities. In the latter, alcohol availability has been managed through 'carriage limits' (limits on quantities and types possessed) and/or local licensed premises denoted colloquially as a 'club' or 'canteen'. These 12 communities are generally located closer to the larger regional centres or towns than the remaining seven communities where all alcohol is prohibited (Queensland Government, 2009). Prior to the restrictions, the main sources of alcohol in most localities were licensed premises run by the Local Government Councils (LGCs). Supply was typically augmented by a trade in illicit alcohol ('sly grog') sourced outside of the communities, mainly in the regional centres and towns (Martin, 1998). Readers are referred to previous publications where the affected communities are described in greater detail (Clough & Bird, 2015; Clough et al., 2014). State-funded drug and alcohol prevention services for remote communities are limited and were significantly reduced in 2012 (Hunter, 2014; Queensland Nurses Union, 2014).

### Survey of community residents

Although all 19 communities were provided the opportunity to participate, LGCs in 10 communities provided permission to undertake a survey among their constituents, i.e. communities were self-selecting. Participants were recruited from their resident populations of 5989 adults (aged 18 years or more) (Australian Bureau of Statistics, 2011). The survey asked participants to respond to propositions about the possible impacts of AMPs. Utilizing a mixed methods exploratory approach (Cresswell & Plano-Clark, 2011), these propositions were developed from both the MCMC program design (Queensland Government, 2002) and key themes emerging from semi-structured interviews with stakeholders including service providers in remote and regional centres (Clough et al., 2016). These stakeholders represented long-standing service agencies and community groups located both in

the communities and the regional centres. They were chosen because they held a mandate, or were in some way responsible, for alcohol management or alcohol-related issues. They were asked to provide their views, based on their long experience, of any favourable outcomes of AMPs and any unintended, unfavourable impacts (Clough et al., 2016). From this information several propositions about the effects of AMPs were developed.

Among the favourable impacts reported in this analysis two propositions reflected the intended impacts of restrictions on reducing alcohol availability and consumption while three propositions reflected perceived unfavourable and unintended impacts on alcohol and drug use and availability.

### Propositions about favourable intended impacts

- "The AMP has reduced the alcohol people can get in this community."
- "Since the AMP, people have changed their drinking and are now drinking less."

### Propositions about unfavourable, unintended impacts

- "There is more binge drinking now since the AMP."
- "There is more cannabis being smoked in the community since the AMP."
- "There have been new drugs coming into the community recently."

The LGCs in each community provided advice regarding the survey content and wording of the propositions and facilitated testing of the survey before research commenced in each locality.

### Sampling and participant recruitment

As for previous studies of substance misuse in these small communities (Bohanna & Clough, 2011), random sampling is inappropriate. For this study, the LGCs requested that all adult community residents (i.e. aged 18 years and over) should be provided the opportunity to participate, with balanced representation of males, females, those who drink alcohol and those who do not. Participants were recruited and interviewed opportunistically in homes, public places and work spaces as advised by the LGCs. Participants' verbal responses were transcribed by the researchers. Community members, nominated by the councils were employed as cultural brokers to facilitate recruitment, to assist with obtaining informed consent and to ensure the sample reflected local age and gender balances.

### Data analysis

#### Quantitative data

For all participants, age, gender and current alcohol use status were recorded. All participants were asked to rate their agreement with each proposition. Binary variables with values of 'agree' (=1) and 'disagree' (=0) were used in the analyses. Separate analyses were conducted in the five communities where there was complete prohibition and in the five where there remained 'some access to alcohol'. The proportions agreeing with each proposition were compared with the theoretical value of 50% (neither 'agree' nor 'disagree'), using one-sample tests of proportions (Table 1).

#### Qualitative information

Participants were also invited to elaborate on their reasoning for each rating and their qualitative comments were recorded verbatim. This qualitative information, although often just a phrase or a few sentences, provided elaboration and meaning and assisted with the interpretation of the findings (Green, Caracelli & Graham, 1989).

**Table 1**  
Proportions of community residents surveyed in Queensland (Australia) in 2014–15 who agreed with propositions about changes in alcohol and drug use and availability in five communities with an Alcohol Management Plan (AMP) in place and where there was some alcohol permitted (n = 683 participants) and in five communities with no alcohol permitted, i.e. total prohibition (n = 415 participants).

| Proposition (n responding)  | Prohibition status     | n responding | n who agree | One sample test of proportions <sup>a</sup> |      |                |
|---|------------------------|--------------|-------------|---|------|----------------|
|   |                        |              |             | 95%CI                                       | z    | P <sup>b</sup> |
| <i>"The AMP has reduced the alcohol people can get in this community"</i> (n = 1049) <sup>b</sup>       | Some alcohol available | 656          | 301 (46%)   | 42%–50%                                     | 2    | 0.04           |
|   | Prohibition            | 393          | 153 (39%)   | 34%–44%                                     | 2.7  | <0.001         |
| <i>"People have changed their drinking and are drinking less since the AMP"</i> (n = 1006) <sup>b</sup> | Some alcohol available | 630          | 275 (44%)   | 40%–48%                                     | 3    | 0.003          |
|   | Prohibition            | 376          | 165 (44%)   | 39%–49%                                     | 2.3  | 0.02           |
| <i>"There is more binge drinking now since the AMP"</i> (n = 931)                                       | Some alcohol available | 596          | 435 (73%)   | 69%–77%                                     | 11.2 | <0.001         |
|   | Prohibition            | 335          | 247 (74%)   | 69%–79%                                     | 8.8  | <0.001         |
| <i>"There is more cannabis being smoked in the community since the AMP"</i> (n = 881) <sup>b</sup>      | Some alcohol available | 568          | 417 (73%)   | 69%–77%                                     | 11   | <0.001         |
|   | Prohibition            | 313          | 188 (60%)   | 55%–65%                                     | 3.5  | <0.001         |
| <i>"There have been new drugs coming into the community recently"</i> (n = 819)                         | Some alcohol available | 534          | 337 (63%)   | 59%–67%                                     | 6    | <0.001         |
|   | Prohibition            | 285          | 121 (42%)   | 36%–48%                                     | 2.7  | 0.007          |

<sup>a</sup> One-sample test of proportions that % agreeing is different from a theoretical reference proportion of 50%, i.e. no majority agreeing/disagreeing.

<sup>b</sup> These propositions were put to participants with reverse logic but then reverse coded for analysis to reduce possible bias where participants' views may have been led towards agreeing with these contentious impacts.

Using an inductive approach to thematic analysis (Braun & Clarke, 2006; King & Horrock, 2010), authors JR and MF identified emergent subthemes among the principal themes imposed by the survey propositions. In the results, subthemes (underlined> are presented in descending order of frequency of mention (i.e. the number of individual participants who mentioned the subtheme). Key comments by participants, presented in italics in the Section Results, were selected by consensus among all three authors as most representative of the sub-themes.

### Ethics

Approval was provided by the Human Research Ethics Committee (HREC) James Cook University (H4967 & H5241). Approval was also provided by the following HRECs: Cairns and Hinterland Health Services District (HREC/13/QCH/130 – 879) and Townsville and District (HREC/13/QTHS/17).

### Results

#### The sample

A total of 1098 people, comprising 18% of the 5989 adult residents of the communities provided a response to the five propositions. The sample included 415 participants in 'prohibition' communities and 683 in communities with 'some alcohol available'. The proportions of males (48% = 529/1098) and females (52% = 569/1098) in the sample overall were identical to the 2011 census proportions (Australian Bureau of Statistics, 2011). Participants in the age group 25–44 comprised 44% of the sample of 1098 which is little different from the census proportion (46%) in this age group ( $|z| = 0.86$ ,  $P = 0.392$ ). The sample included participants aged from 18 to over 65 years and represented 18% of the adult population. Almost 90% were Indigenous and 85% had lived in the community for long enough to have witnessed both rounds of alcohol restrictions implemented from 6 to 12 years prior to the survey (Clough & Bird, 2015). The proportion of the sample who said they currently drank alcohol was 71% (80% of males, 63% of females,  $\chi^2 = 38.7$ ,  $P < 0.001$ ). Interestingly, there was no significant difference in the proportions of current drinkers in communities where some alcohol was available (70%) and in the communities where total prohibition was the rule (73%) ( $\chi^2 = 0.29$ ,  $P = 0.592$ ). These proportions are very similar to the proportion of all Indigenous Australians who report consuming alcohol within the past 12 months (73%) (Australian Institute of Health and Welfare, 2011).

#### Quantitative data

Table 1 indicates that participants generally tended to disagree with both favourable propositions. In communities with prohibition as well as in those with some alcohol available, less than half of participants agreed that: *"The AMP has reduced the alcohol people can get in this community"* and that *"Since the AMP, people have changed their drinking and are now drinking less."* These patterns were all statistically significant compared with a 50% agreement response ( $P < 0.050$ ).

In communities with prohibition and in those with some alcohol available, almost three-quarters of participants agreed that: *"There is more binge drinking now since the AMP"* with substantially more than half agreeing that: *"There is more cannabis being smoked in the community since the AMP"* (Table 1). These patterns were statistically significant in the same direction compared with a 50% agreement response ( $P < 0.050$ ). However, almost two-thirds of participants in communities where some alcohol was available agreed that: *"There have been new drugs coming into the community recently"* while, by contrast, in communities with prohibition considerably less than half of participants responding agreed with this proposition (see Table 1). Although in opposing directions, these patterns were also statistically significant compared with a 50% agreement response ( $P < 0.050$ ).

#### Qualitative data

Each proposition is accompanied by the number of participants providing qualitative information among the total number responding (in brackets).

*The AMP has reduced the alcohol people can get in this community.* (297 of 1049)

*Illicit alcohol.* Survey participants from both 'prohibition' and 'some alcohol available' communities who tended to disagree with this proposition most frequently referred to the increased availability of sly grog: *"Sly grog is a major problem"*; *"It [the AMP] made us bring in more and more on the sly"*; *"The sly grogging started when they shut the pub"*.

*Enforcement of restrictions.* Many participants commented on the difficulties of effectively policing the restrictions: *"It [sly grog] happens so many ways. By boat, by road. People use their phones to bring it in, tell 'em police car parked up here, they bring it in. They always find a way"*.

*Change in preference of alcohol type.* The most commonly mentioned types of alcohol associated with this trade were those with an alcohol content higher than the mid- and low-strength beers and pre-mixed spirits permitted to residents of “some alcohol available” communities: “Strong stuff”; “No, sly grog is always there. People like the taste of rum and wine. You can’t get that at the canteen”.

*Financial impacts of illicit alcohol trade.* There were many comments regarding the financial impacts of sly grog such as: “Black market alcohol is big business”; “People are drinking what they can at hugely inflated prices”.

*Impacts of a licensed premises.* Participants also reflected on the potential impacts of re-opening a licensed premises in the community: “[With] the club we want to see if sly groggers will stop bringing in alcohol. Club alcohol will be cheaper, sly grog costs too much. Main reason to reopen the canteen: people have right to drink. Some people in community can control their drinking. But we also want to see sly grog slow down. We worry about the young ones”. In one community that had re-opened their licensed premises just prior to the survey, a participant commented that there had been a slight reduction in the cost of illicit alcohol but not its availability: “All it has changed is the sly-grog price. Pre-canteen it was higher, now it’s lower. Not the amount [of illicit alcohol coming into the community]”.

*Since the AMP, people have changed their drinking and are now drinking less.* (236 of 1006)

*Consumption of illicit alcohol.* Those who disagreed noted changes in drinking behaviours perceived to be strongly associated with the consumption of sly grog: “People are worse drinkers, they drunk every night. Before AMP they would wait for the week-end. Now they drink whenever they can because they don’t know when the police going to be around”.

*Different drinking styles.* Different drinking styles were noted in regulated and unregulated environments: “The people drinking at the club are not the problem. It’s the drinking outside that is the problem”; “But only sly grogging causes heavy drinking”. Violence was strongly linked with the consumption of sly grog: “More [binge drinking] with the sly grog and fighting too”; “When people drinking sly grog can be happy but just takes one to blow [punch] and everyone goes crazy”. Drinking of illicit alcohol reportedly happens in clandestine environments which bring additional risks: “When we have grog we have to stay down on the beach and drink. It’s too far for people without a car, coming back, too dangerous, walking on the road drunk”.

The minority of participants who agreed with this proposition described a decrease in alcohol consumption and a switch to the permitted lower strength beer by some drinkers: “Some people are drinking less due to the amount allowed in the community”; “Some people drink less and others drink light beers”.

*There is more binge drinking now than since before the AMP.* (254 of 931)

*Consumption of illicit alcohol.* While the information provided did not permit an assessment of any increase in the numbers of binge drinkers, some participants noted that binge drinking was not a new practice: “Always the way of drinking, go hard”; “Some people don’t drink in moderation. They drink in desperation”. However, many participants perceived binge drinking, both inside and outside of the restricted areas, had been exacerbated by the alcohol restrictions and consumption of illicit alcohol: “Also [alcohol] restrictions promote binge drinking when the opportunity arises — like going to town on the weekend”. Binge drinking was described as due to avoiding either sharing of an expensive commodity or

avoiding apprehension for a breach of the alcohol restrictions: “When you spend lots of money on grog you drink it fast”; “Now with restrictions people hide their drink inside and scull it so they don’t have to share or afraid of getting caught. It created a real binge culture”. Some participants thought binge drinking was more problematic with younger people: “Especially the younger ones, and the girls.”; “Younger people drink, angry for more, go hard”.

*Consumption of alcohol in local licensed premises.* This practice, taking place in well-regulated environments, by contrast, is perceived as being at a more leisurely pace: “But people can take it easy at the canteen”; “We can take our own time at the canteen, don’t have to rush drinking a carton”; “People don’t drink fast in the pub. They moderate it, buy time for each beer”. However there were comments about drinking illicit alcohol following closure of trading: “Yep. Also people keep drinking and drinking. Once they come out of the pub they go to that sly grog”; “People will try and get most they can down in the pub. Then if they got some outside, they’ll smash them down”.

*There is more cannabis being smoked in the community since the AMP.* (293 of 881)

*Historic high prevalence of cannabis.* Participants across all communities acknowledged the long-standing ready availability of cannabis: “Been around a long time before the AMP”; “There was always a lot of gunja [cannabis]”; “There’s heaps but same as before”. However concerns about a younger age of uptake were voiced: “Way too much in town and kids doing it”; “Half the community smoke dope. [It] ranges from 12 years and up”; “It’s everywhere. I see 10, 11 year olds doing it”.

*Impact of AMPs on cannabis use.* Despite the differences in perceptions between communities with ‘prohibition’ and ‘some alcohol available’ (Table 1), an increase in cannabis uptake was perceived by many to be related to the introduction of alcohol restrictions across communities generally, with some indication of novice user groups emerging: “When the AMPs came in the drugs took over, the yarndi [cannabis] took over”; “Few older [people] starting to smoke. People will get stoned if they can’t get alcohol”. This phenomenon was linked to both the comparative ease of access and the affordability of cannabis compared with alcohol: “For some people it [cannabis] is easier to get than alcohol”; “More people are smoking. \$250 for rum, a foil [of cannabis] for \$50”.

*Priority of issues.* Across sites, many participants expressed the view that cannabis use was highly problematic in their community: “They say you stopping the grog but who is stopping the gunja?”; “That’s our biggest problem now, not the alcohol”; “It’s getting worse. Losing to the young ones, smoking dope is not our culture”.

Some participants commented that cannabis use was preferable to alcohol as it was perceived to be less likely to contribute to violence when consumed separately: “People started smoking gunja, better off than alcohol. Peaceful, they feel ok, the next morning they just go about their business”; “Most people smoke. It’s not as bad as alcohol. More violence with alcohol”.

*There have been new drugs coming into the community recently.* (252 of 819)

*Impact of remoteness.* Comments from participants in the communities located closer to regional centres or towns, included: “There is speed, injecting and prescription drugs”; “We now have youth utilising stronger substances i.e. ice lacing marijuana”; “Ice is in our community. Young blokes have been experimenting, even young blokes hospitalised from this drug”. By contrast, comments from participants in the more remote sites

with prohibition in place indicated either the absence of new drugs or uncertainty: “No, nothing new”; “I haven’t seen this, just the *gunja*”; “There are other drugs. I don’t know what they are taking but they don’t get that stupid on marijuana”. Some participants reported feeling that the arrival of new drugs, methamphetamine in particular, was almost inevitable: “Soon ice will come and that will mean we are in big trouble”; “No, but it will be here eventually”.

**Community mobilisation.** In some of these more remote sites with prohibition, participants made robust statements about the unacceptability of new drugs and community action to prevent establishment of their use: “That other stuff wouldn’t come here. We’re strong here. We talk about that a lot in men’s group last year. We already decided we don’t want that here”; “No, we will fight to keep ice out”. Reported examples of community action included local council and/or community members insisting visiting injecting drug users and dealers leave community: “Someone tried to bring pills but the boys told him to leave”. For this theme, these sub-themes are consistent with the pattern shown in Table 1.

## Discussion

The perceptions of community residents surveyed in this study, supported by the qualitative information provided, suggest that AMPs have produced some unintended adverse consequences, as anticipated by Justice Fitzgerald’s inquiry (Fitzgerald, 2001).

In communities where all alcohol was prohibited as well as in those where some alcohol was permitted participants *disagreed* that the favourable, intended impacts had occurred. Qualitative information revealed consistently strong themes describing a perceived significant increase in the supply and consumption of illicit alcohol. In these communities participants *agreed* that unfavourable, unintended impacts had occurred in the form of perceived increases in harmful (‘binge’) drinking and the uptake and use of cannabis. Qualitative information also revealed strong themes describing behaviours linked with these impacts.

Participants in communities with some alcohol available i.e. those located closer to towns and regional centres, described a recent increase in the availability and use of illicit drugs other than cannabis while participants in ‘prohibition’ communities tended to hold the opposite view.

Evaluations of supply restrictions in rural and remote settings in Australia, largely conducted in the Northern Territory and Western Australia, include reports of some decrease in public drinking in several sites and short term reductions in alcohol sales (Conigrave, Proude & d’Abbs, 2007; d’Abbs, McMahon, Cunningham & Fitz, 2010; Gray, Saggars, Atkinson, Sputore & Bourbon, 2000; Kinnane, Farrington, Henderson-Yates & Parker, 2009; Martin, 2004; Senior, Chenhall, Ivory & Stevenson, 2009). Overall, the experiences and perceptions we have reported here, suggest that the AMPs in Queensland have had a limited impact on reducing access to alcohol in the affected communities.

Prior to the introduction of AMPs in Queensland, an examination of sales data from community-based liquor outlets in several communities in the far north region indicated existing high levels of consumption among drinkers (Martin, 1998). Soon after the introduction of restrictions, “a new culture of illicit drinking” was identified as an unintended result of the introduction of carriage limits in one Cape York community (Martin, 2004). There is currently no data available on amounts of alcohol that are being consumed by drinkers in these communities. However, between 2002 and 2012, 11,378 alcohol breach convictions were linked to 5676 individuals (Demography and Indigenous Statistics Team, 2013). These figures may indicate both a continued demand for alcohol and a general lack of support for the current restrictions among community members. Our data reports a clear perception

in the majority of participating communities that sly grogging has become embedded and illicit drinking is highly problematic. Harmful drinking practices were reported to be strongly associated with the consumption of illicit alcohol, with agreement across the communities that binge drinking had increased. Drinking of illicit alcohol in uncontrolled and often clandestine environments also was seen to enable relative ease of access to alcohol by under-age youth.

Several local imperatives to consume ‘sly grog’ hastily were reported. The rapid intoxication associated with this drinking behaviour was seen to engender an atmosphere where arguments and fights were readily sparked. Although a number of participants commented that not all violence in the communities was associated with alcohol, this result is of special concern since the major intended outcome of the AMPs was a reduction in alcohol-related violence and improved community safety.

In contrast to the drinking behaviours described above, many participants asserted that access to alcohol in licensed premises with sound regulation would afford opportunities to learn ‘responsible drinking’. This hoped-for outcome has yet to be widely demonstrated (Brady, 2014). In the few licensed premises operating in the study communities, sale and consumption of alcohol are rigorously monitored and poor behaviour is not tolerated. Many study participants reported these social restraints are quickly abandoned when illicit alcohol is consumed outside of these controlled environments. While there is a paucity of evaluations of interventions to reduce harmful drinking in Indigenous Australian populations, existing literature underlines the need for implementation of wide-ranging interventions in realistic time-frames in order to change cultures of drinking (Brady, 2014; Jainaulabudeen et al., 2015; Room, 2001; Wakefield, Loken & Hornik, 2010), further indicating that limiting alcohol alone will not be successful.

Cannabis use is more prevalent among Indigenous Australians than other Australians, with rates of use considerably higher in remote communities (Bohanna & Clough, 2011; Lee, Clough & Conigrave, 2007). In earlier research in the region, an increase in the uptake of cannabis, particularly among women, was thought to be linked with the initial implementation of AMPs between 2002 and 2004 (Clough, 2012), evidence which is consistent with the perceptions reported here in the 10 communities surveyed. A further increase in uptake of cannabis associated with canteen closures in 2008 is possible, but systematic data is not available. Overall, the comments provided by survey participants are in keeping with cautions that alcohol restrictions may encourage substitution with other drugs (Gray, 2010; National Drug Research Institute, 2007).

Although there was some evidence for the emergence of new drugs, thought to be amphetamine-type stimulants, uptake was not reported to be directly a result of alcohol restrictions. Despite fears of an emerging ‘ice epidemic’ in remote locations, front-line service providers across sectors of health and enforcement recently reported that either alcohol, a combination of alcohol and drugs, or cannabis alone, remain the cause of the majority of their drug-related workload (Clough et al., 2015).

In the context of discrete Aboriginal communities across Australia, supply reduction strategies have demonstrated some effectiveness, but by themselves are believed unlikely to produce long-term changes (Gray, Saggars, Sputore et al., 2000; National Drug Research Institute, 2007). Despite this evidence, evaluations of AMPs have shown that the full range of essential intervention strategies pertaining to supply, harm and demand reduction have rarely been implemented concurrently (Smith et al., 2013). There has been recent discussion among leading Australian academics regarding the gap between policy rhetoric and implementation of efforts to reduce alcohol-related harm among Indigenous Australians. This debate stresses the need for coherent national strategies and the provision of appropriately supported opportunities for alcohol policies, including restrictions, to be truly

community-driven (Boffa, Gray & Ah Chee, 2015; Brady, 2015; d'Abbs, 2015; Wilkes, 2015).

### Limitations

While the sample size comprised a substantial proportion (18%) of the targeted population, self-selection of participating communities and opportunistic recruitment of participants limits the generalizability and representativeness of the results. However, our recruitment strategies ensured that the participants reflected the age and gender compositions of each community with views of both drinkers and non-drinkers included.

The alcohol and drug use behaviours described here are based on perceptions, not objective measures of behaviour. Our analysis cannot determine whether positive impacts have outweighed the negatives. Nevertheless, responses to structured questions are valued in the literature as they can capture views at one time point in a particular context (Dowler, Green, Bauer & Gasperoni, 2006). Moreover, it is recognized that public opinion influences public policy particularly regarding issues of high salience (Burstein, 2003). Issues surrounding alcohol controls are of great historical importance to Indigenous Australians generally and are of high salience in the small and mostly isolated communities surveyed (Clough & Bird, 2015). Residents of these communities have had few opportunities to share their views on local alcohol restrictions. The perceptions held by 18% of the adult populations in 10 of the 19 communities affected by AMPs represents a substantial community (or public) voice documented for the first time.

### Conclusions

The level of alcohol restriction viz 'prohibition' or 'some alcohol' available, was perceived to have not impacted significantly on either access to alcohol or drinking behaviours. However, the possible emergence of new drugs was less frequently perceived in communities with 'prohibition' than those closer to regional centres suggesting a possible protective effect of remoteness.

Despite a significant focus on supply reduction, efforts to limit access to alcohol in discrete Queensland Aboriginal communities appear to have been challenged by the growth of the sly grog trade. Further, the consumption of sly grog is perceived to be associated with an increase in harmful drinking generally. Participants' responses also point to some substitution of alcohol with cannabis.

The current review of the long-standing AMPs by the Queensland Government is timely, allowing each affected community to reassess their restrictions from their present capacities and increase ownership of local alcohol management strategies.

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### Conflict of interest statement

None declared.

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