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## Implementing a reward and reminder underage drinking prevention program in convenience stores near Southern California American Indian reservations

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### Abstract

**Background**—Underage drinking is associated with a number of social and public health consequences. Preventing access to alcohol is one approach to reducing underage drinking.

**Objectives**—This study assesses the efficacy of a culturally tailored “reward and reminder” program aimed at reducing convenience store alcohol sales to youth living on or near nine American Indian reservations.

**Methods**—First, tribal council proclamations were sought to support underage drinking prevention, including reward and reminder efforts. Then, decoys (volunteers over 21 years of age but judged to look younger) attempted to purchase alcohol without identification. Clerks who asked for identification were given “rewards” (gift cards and congratulatory letters), whereas clerks who did not were given “reminders” of the law regarding sales to minors. Following an initial baseline of 12 purchase attempts, three repeated reward and reminder visits were made to 13 convenience stores selling alcohol within ten miles of the reservations (n=51 total attempts).

**Results**—Five of nine tribal councils passed resolutions in support of the program. The baseline sales rate without requesting ID was 33%. Similarly, 38% of stores in the first reward and reminder visit round failed to request identification. However, in the following two reward and reminder rounds, 0% of the stores failed to request identification.

**Conclusions**—These results indicate that environmental community-level underage drinking prevention strategies to reduce alcohol sales near rural reservations are feasible and can be effective.

**Scientific Significance**—Environmental prevention strategies within reservation communities support integrated supply and demand reduction models for reducing underage drinking.

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#### Declaration of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

## Keywords

Underage drinking prevention; off-premise alcohol sales; alcohol availability; environmental interventions; American Indians

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## INTRODUCTION

Underage drinking is associated with a range of social and public health consequences. A number of longitudinal studies have found that the initiation of alcohol use and/or intoxication during early adolescence is associated with an increased risk of the eventual development of alcohol dependence (1–2). This association has been replicated in a number of populations, including among American Indians (3). The health hazards associated with underage drinking in among American Indian adolescents have been well documented (4–8). Moreover, adolescents from rural areas may be at higher risk for underage drinking than their suburban or urban counterparts (9). American Indian adolescents in rural areas (which characterize most reservations) therefore may be at relatively greater risk for drinking and associated problems. Restricting access to alcohol can be part of an environmental approach to reducing underage drinking, that also incorporates community norm change and the reinforcement of existing laws against the sale or provision of alcohol to minors (10–11).

One environmental strategy to reduce alcohol availability to minors from commercial sources focuses on encouraging clerks to follow underage sales laws by checking the identification of young people before selling alcoholic beverages to them. In reward and reminder programs, youthful decoys attempt to purchase alcohol and then either “reinforce” clerks who do not sell or provide a “reminder” of the law to clerks who do sell. Such programs, also referred to as “mystery shopper reports” (12), have been shown to significantly reduce tobacco sales to minors and to reduce self-reported smoking and drinking (13). A large randomized community trial on environmental approaches to preventing underage drinking included an effective reward and reminder and compliance program targeting convenience store outlets in 36 small Oregon communities (14–17).

The current project was initiated as a collaborative effort to reduce underage drinking based in a community tribal health clinic that serves a consortium of local tribes. Initial capacity building and quantitative and qualitative data collection efforts established the need to address the relative ease with which young reservation residents reported they were able to obtain alcohol from off-premise outlets on and near their reservations (18–19). Specifically, study team members conducted semi-structured interviews with 34 purposively selected tribal community leaders and 36 youth and young adults from the tribes included in this study concerning their views on the extent and causes of underage drinking in their communities and the tribes' prior prevention efforts. Each of the nine regional tribes was represented by at least four and up to ten respondents. Content analysis of the interviews indicated that there was widespread but not universal agreement on high availability of alcohol for reservation youth from both commercial and noncommercial sources, although reliance upon convenience stores as an alcohol source for young people varied from reservation to reservation.

Additionally, recruitment efforts at the tribal clinic waiting rooms and local gatherings resulted in 207 anonymous surveys being completed by tribal youth (aged <20), following their assent and parental or guardian consent. The surveys included questions on quantity, frequency, and access patterns of alcohol and other substance use, correlates of use, and age of first intoxication. Within this broad age-range, 39 percent of the girls and 27 percent of the boys reported drinking to intoxication. Analyses of the surveys found that earlier age of

first alcohol intoxication was associated with past year alcohol and other substance use, and alcohol-related risk behaviors such as experiencing an alcohol blackout or suffering a serious injury in the previous year.

In this paper we describe the results of a culturally tailored reward and reminder program to reduce alcohol availability to youths living on or near nine Southern California American Indian reservations.

## **METHODS**

### **Outlets identified**

The research team searched the California Department of Alcoholic Beverage Control (ABC) website to create a list of all alcohol retail outlets within ten miles of the nine tribal reservations. The addresses, names of the owner of record and contact information were recorded by the team. These sites, including deli markets, stand-alone convenience stores, and off-premise outlets in gas stations, were visited to verify that they were in operation and sold alcohol.

### **Program adaptation**

The project staff reviewed the implementation manual for the Oregon reward and reminder program. The community intervention specialist from the Oregon project supplied copies of printed materials such as reminder letters and consent forms. She also provided a full-day, hands-on training session for the clinic staff working on the project, including discussions of challenges experienced in Oregon, and critical components for fidelity to the program ideals.

Following this training, the team then considered how best to tailor the existing program to fit local laws and local cultural conditions (20). To create local ownership, the team created logos for the underage drinking prevention project and the reward and reminder program, and incorporated feather imagery in the reward and reminder letter graphics, consistent with local tribal use of feathers in many graphics. The Oregon project used community proclamations to demonstrate support for the reward and reminder program. To be relevant to the reservation context, these proclamations were rewritten as model tribal council resolutions to be offered as drafts to each of the local autonomous sovereign tribes to consider. These materials, including draft tribal council resolutions and consent forms, were reviewed by the tribal Institutional Review Board and clinic administration.

### **Tribal proclamations**

The tribal council resolutions affirmed each community's concern about underage drinking and support for the research team's preventive interventions. On two separate occasions before the baseline purchase attempts, the project director delivered a letter outlining the procedures and referencing the tribal council proclamations to each outlet. The project director informed managers about the upcoming effort to reward clerks for not selling alcohol to minors. Local tribal law enforcement, the Sheriff's Department and the regional ABC office were notified about the program and the schedule, in order to avoid conflicts with any of their operations.

### **Volunteer selection and training**

Because local laws forbid the purchase of alcohol by minors except in an official ABC or law enforcement compliance check, we sought the volunteer assistance of young adult community members who were over 21 years of age, but appeared to be younger, to attempt to purchase alcohol without identification. For the present study, a panel of experts who worked closely with youth (cf. 21–22) including a Native tribal law enforcement officer, a

tribal chairman, and a tribal elder reviewed photographs of prospective decoys and unanimously judged them to look under 21 (mean judged age=18.75). The decoys included one 21 year old man, one 22 year old woman, and two 23 year old women.

Volunteer decoys were instructed in the detailed protocols for the study (e.g., not to lie when the clerk would ask them questions, mentally noting if there were signs about not serving alcohol to minors, and what the characteristics of the clerk were) and consented to participate. The study coordinators then guided the volunteers in several role-playing scenarios (e.g., what would they do if the clerk did or did not ask for ID?).

### **Reward and reminder protocols and implementation**

The protocol on the day of the visits included the event coordinator and one of the research assistants associated with the program meeting the decoy at a local location. The decoys would not drive during the purchase attempts. Upon arriving at an off-premise outlet, the driver would park the car and the buyer would enter the outlet without an ID and attempt to purchase a six-pack of Miller Lite beer or a 40 ounce container of malt liquor. If challenged or asked for ID, the buyer was instructed not to lie. If they were not asked for ID, they would complete the sale. The decoy returned to the vehicle and informed the coordinator of the details of the purchase attempt.

Next, the coordinator would return to the store to provide a reward or remind message to the clerks, depending on whether or not they asked for identification. Those who were willing to sell alcohol without an ID check to the decoys were handed a reminder of California law regarding sales to minors. Clerks who refused to sell to the decoys were handed an envelope containing a note of thanks for obeying California law and a gift certificate (worth \$15 in the first set and \$25 in the second and third sets of purchase attempts). These clerks were also asked to pose for a photo displaying the reward and permission to use the photo for publicity for the project. When a clerk did not sell to the decoy, managers or owners were sent or given a letter describing the reward and reminder program and congratulating their clerk for complying with state law.

After leaving the outlet, the decoy would complete the reward and reminder data form on whether the purchase attempt was successful, the gender and approximate age of the clerk, and whether or not identification had been requested. The buyer also recorded additional descriptive information about the interior of the outlet (e.g., number of cash registers, presence of signs stating age identification policies, etc.).

Following an initial baseline of 12 purchase attempts without the reward and reminder follow-up, three separate reward and reminder visits were made to 13 convenience stores selling alcohol within a 10-mile radius of the nine reservations (n=39 reward and reminder visits; including the baseline, n=51). No decoy attempted a purchase on more than one occasion in each store, in order not to arouse suspicion.

## **RESULTS**

Five of nine tribal councils passed resolutions in support of the program. (The four tribal councils that did not pass the resolution did not have any outlets on their tribal land.) Prior to the initiation of the reward and reminder visits, the baseline alcohol sales rate without checking the IDs of the decoys was 33% (4/12 stores; one of the 13 stores was not visited during the baseline). There were three subsequent reward and reminder visits paid to each of the 13 convenience stores. The first set of reward and reminder visits found five of the 13 stores (38%) failing to check identification before selling to the decoys.

In the following two sets of reward and reminder visits, none of the clerks in the 13 stores sold alcohol to the decoys. It should be noted that in the third set of reward and reminder visits, one clerk did initiate a sale without checking the decoy's identification, but then asked for the ID after the decoy had handed her the money; the clerk returned the money and cancelled the sale, indicating that she had second thoughts about the transaction. If that incident counted as a no sale, then the percentage of sales without checking identification in both the second and third set of reward and reminder visits was 0%. A goodness of fit test indicated that the observed sales rate at the two purchase sets after the implementation of the reward and reminder were, in fact, significantly lower than would be expected by chance,  $\chi^2(3) = 9.22, p < .05$ . There was no significant association between sales without ID and the clerks' apparent age (mean=31, sd=8.7) or clerks' gender (27 women and 24 men).

## CONCLUSIONS

The results of this culturally-tailored prevention program indicate that evidence-based, community-level underage drinking prevention efforts in rural reservations are feasible and merit further investigation. Adopting science-based environmental prevention strategies in and around American Indian reservation communities can be one piece of an integrated approach for preventing and delaying the onset of underage drinking.

Study limitations include holding a relatively small number of purchase attempts in the study region over the course of three months; there is the strong but unverified possibility that as soon as decoys left the stores, the clerks would contact their colleagues at other stores in order to alert them of ongoing operations, a common phenomenon in an earlier study on smoking in California bars (23). However, the reward and reminder visits took place over a series of days rather than all at once, reducing the impact of such immediate warnings among retail colleagues/competitors. Additional reward and reminder visits, held at different times in order to thwart potential alerting of other stores, and with new trained volunteers, should help to further establish the long-term utility of this intervention. Communication between stores may help to reinforce the sense that clerks should be alert to the potential for decoy purchase attempts at any time (12).

The underlying principles of the reward and reminder program remain consistent between the Oregon study and the present study in an American Indian community. Although the mechanism was altered from a community proclamation to a tribal resolution, they both gained support for their respective projects from their local community leaders. The integrity of implementation was maintained by thorough communication by program staff with law enforcement and local officials, as well as preparatory visits with the convenience store managers prior to conducting the reward and reminder operations. Based on baseline data and similar programs implemented in Oregon (14–17), as well as anecdotal information from similar programs conducted by Mothers Against Drunk Driving elsewhere in the region, the results appeared to be comparable.

Beyond their direct effect on illegal alcohol sales, reward and reminder visits in a community lay the groundwork for other enforcement efforts. Outlets that repeatedly sell to minors, even though rewards have been made available for not doing so, will receive little sympathy from community leaders, who will be all the more supportive of enforcing the law. Moreover, the reward and reminder program has the potential to be sustainable over a long period of time, as the community could continue it at very low cost with volunteers. The research team plans to continue the reward and reminder program checks approximately every six months in order to maintain a sense of accountability among clerks, and to continue to monitor trends in youth access to commercial sources of alcohol. The team also

intends to partner with the ABC and other regional law enforcement agencies for future compliance checks.

In addition to the program's encouragement of behavior change by reservation area convenience store clerks, the visibility of the campaign was ultimately designed to shift community norms. The novelty of this approach typically makes it easy to get positive local publicity. Clerks who refused to sell were asked to pose for a photograph that, with their permission, was included in a press packet. Rural communities have unique ways of obtaining information about their communities such as small town papers and innovative publicity strategies are often necessary to reach local residents. The team has written and distributed press releases to local and regional newspapers and tribal newsletters and tribal Temporary Assistance to Needy Families newsletters highlighting elements of the program; articles describing the program were published in these venues the first half of 2012. Additionally, a publicity strategy promoting a zero underage alcohol sales expectation in the tribal community includes a prominent billboard on land made available by one of the tribes adjacent to a highway linking most of the reservations, an awards ceremony, with tribal leaders in attendance, for all 13 businesses and their clerks, and flyers picturing law-abiding clerks can be widely distributed in the community.

A motivation behind the reward and reminder program was to offer businesses serving reservation residents the opportunity to reshape themselves as more responsible community partners. Because the tribal councils had been informed of the project early on and most had provided resolutions of support, a cooperative ethos surrounded the visible actions to reduce the ease of reservation youth's access to commercial sources of alcohol. This further served as a collaborative way to alter community norms about the acceptability of underage drinking among reservation residents.

To assess if the program has achieved longer-term success, the study team will compare changes from the initial surveys and interviews described in the introduction. At the conclusion of the study, semi-structured interviews will again be conducted with purposively sampled community leaders and youth, focusing on indicators of changes in norms and behavior surrounding underage drinking in each of the reservation communities in the study.

In place of a specific control group to test the relative success of the intervention, we shall compare our ongoing compliance measures with those reported by ABC and other law enforcement in other outlets in counties near the reservation communities. In terms of larger youth behavioral outcomes, the study team will also monitor the results of anonymous standardized youth risk behavior surveys (noting racial/ethnic self-identification) in the study region, which will be compared to the results of those from other surrounding regions in a time series including the years prior to the intervention.

Future research on this topic should focus on tailoring reward and reminder programs to even more remote rural communities, where most of the customers are well known, and expanding the intervention focus to include youths' informal alcohol access from their friends and family members. Methodologically, for analogous research in other small-scale reservation settings, relevant data collection efforts could include key informant interviews as well as short anonymous surveys conducted at tribal community events, health center waiting rooms, and youth groups. It may be worth noting that the very act of asking about prevention efforts may help to foster the sense that community members can do something about underage drinking instead of becoming resigned to it.



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