



Published in final edited form as:

Int J Drug Policy. 2018 April ; 54: 77–86. doi:10.1016/j.drugpo.2018.01.010.

Impacts of alcohol availability on Tribal lands where alcohol is prohibited: A community-partnered qualitative investigation

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Abstract

On a Northern Plains reservation where alcohol was prohibited, we investigated community members' views on the impacts of alcohol availability. Our methods combined elements of Tribal community participatory research with qualitative inquiry to elicit these perspectives. We used rapid appraisal techniques to conduct confidential interviews with 31 key leaders representing 7 relevant major community systems, and representing a variety of perspectives. Topics included respondents' understandings of the current systems of alcohol availability and use on the reservation, the impacts of these systems on reservation residents, and possible ways to measure these impacts. Respondents reported impacts on individuals, families, and the tribe overall. Alcohol-related problems shaped and were shaped by a constellation of social-ecological conditions: kinship, housing, employment, public/social service capacity, and the supply of alcohol in nearby off-reservation areas, as well as inter-governmental relationships and the spiritual life of reservation residents. A variety of social structural determinants magnified alcohol impacts, so that the problem drinking of a small number of individuals could have broad effects on their families and the entire community. Our participatory qualitative methods enabled us to directly include the voices as well as the personal experiences and expertise of community members in this presentation. These methods may be broadly applied within policy analysis to identify ways to reduce harms related to alcohol and other drugs for Indigenous communities.

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Conflicts of Interest: None

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Keywords

Alcohol availability; Prohibition; American Indian; alcoholic beverage regulation; Tribal Participatory Research

Background

Control and regulation of alcohol and other intoxicating substances have been debated in the United States almost since the nation's beginning. Distilled spirits arrived with the Puritans, were soon easily obtained from the Caribbean colonies or domestic production, and production as well as consumption of alcoholic beverages were favored by influential U.S. political leaders including Washington, Jefferson, Adams, and Franklin (Okrent, 2010). Restrictions on drinking soon followed, including prohibitions for specific types of people for whom alcohol was said to have deleterious effects, e.g., enslaved Africans (Rorabaugh, 1979) and American Indians/Alaska Natives (AI/AN) (Mancall, 2004; Unrau, 1996, 2013; Weibel-Orlando, 1990).

By 1919, anti-alcohol sentiment in the U.S. had consolidated to the degree that by Constitutional amendment alcohol was banned entirely. Total prohibition of alcohol can reduce alcohol-related problems (Babor, 2010), but illegal sales may flourish when there is substantial consumer demand. Like other illegal drug markets, illegal alcohol markets may be associated with crime and violence, and indeed violence related to organized crime was a major concern that led to the eventual repeal of National Prohibition in 1933 (Fosdick & Scott, 1933; Okrent, 2010).

However, prohibition was retained for all American Indian nations until 1953, when federal law allowed Tribes to repeal it by enacting their own alcohol policies (May, 1977, 1992). Of 334 federally recognized Tribes in the lower 48 U.S. states reviewed between 1975 and 2006, approximately 1/3 maintained complete prohibition of alcohol in their lands, while many more maintained partial restrictions on possession, consumption, and/or sales of alcoholic beverages (Kovas, McFarland, Landen, Lopez, & May, 2008). Despite a great deal of research on the prevalence and etiology of alcohol-related problems among American Indians/Alaska Natives (AI/ANs), there has been surprisingly little research on alcohol availability and regulation on Tribal lands. As a result, Tribal policymakers considering repealing prohibition have limited evidence with which to assess the utility and effectiveness of Tribal alcohol policy for reducing and preventing alcohol-related problems.

As with many commodities, mass production and distribution of alcoholic beverages allows manufacturers, distributors, and retailers to economize on costs and thus provide a lower cost product, which in turn broadens the consumer base for the product and allows each consumer to purchase more units of alcohol. Alcohol policies reverse-engineer this system, seeking to regulate the cost and physical availability of alcohol with the assumption that reductions in supply increase the full costs of alcohol and thereby reduce consumption (Babor, 2010; Chaloupka, Grossman, & Saffer, 2002). Alcohol policies focus on price and on limiting the circumstances within which people can obtain alcohol (Babor, 2010; Gruenewald, 2011). These policies include taxes and restrictions on the operating conditions

of individual alcohol sales outlets (e.g., hours of operation; restrictions on sales of specific type products, and/or to specific type people) and on overall density and location of alcohol sales outlets within communities (Stockwell et al., 2015).

Recent evaluations of alcohol policies across U.S. states have found that stronger policy environments are associated with reduced alcohol-related harms, including binge drinking (Naimi et al., 2014), underage drinking (Xuan et al., 2015), and alcoholic cirrhosis (Hadland et al., 2015). These assessments have not included the policy conditions on Indian reservations, essentially sovereign nations, which exist in some tension with U.S. territories. Because the experiences of Indigenous people are singular among U.S. populations, it is unclear whether measures standardly used to assess alcohol policy effects in U.S. states and counties would adequately describe effects experienced on Tribal lands. In addition, Tribal lands may border on areas of high alcohol availability.

On a Northern Plains reservation where alcohol was prohibited but whose policymakers have been considering legalization of alcohol sales, the present study aimed to identify means by which to measure and assess the effects of the alcohol environment for reservation residents. At the time of our project, alcohol was completely prohibited on the reservation, yet known to be readily available in off-reservation “border towns,” i.e., small communities very close to the borders between the reservation and adjacent states, as well as in nearby cities. It is important to note that alcohol has played a pivotal and troubling role in relations between Indigenous and non-Indigenous people in the Americas since the earliest times of contact. Although historical records produced by and for European colonizers may be biased, nevertheless scholars have proposed that problematic alcohol use may constitute a behavior learned by Natives from contact with early colonials, whose drinking styles tended toward rapid and voluminous consumption coupled with violence (Frank, Moore, & Ames, 2000). Colonial documents report alcoholic beverages were routinely deliberately deployed in trade and diplomatic negotiations to the advantage of colonials (Hussey, 1976; Mancall, 2004; Unrau, 1996). The devastating effects of colonization in the Americas, which included brutalization, enslavement, expropriation, forced removal of children, and attempted mass deculturation, resulted in profound immeasurable losses and traumas (Brave Heart, 2004; Brave Heart & DeBruyn, 1998; Duran, Duran, Brave Heart, & Yellow Horse-Davis, 1998; Jervis, 2009; Walters, Beltran, Huh, & Evans-Campbell, 2011); recovery has been continually challenged by racism, discrimination, and community and structural violence (Emerson, Moore, & Caetano, 2017; Manson, Beals, Klein, & Croy, 2005). As with Indigenous peoples in other parts of the globe (e.g., Canada, Australia, New Zealand), in the U.S. the past and ongoing mass traumas experienced by Indigenous peoples are associated with alcohol-related problems (Alexander, 2010; Johnson, 2016). Whereas alcohol regulatory systems in Canada and Australasia are established by federal, state, or local governments, which may recognize and include Indigenous concerns, including through formal consultative processes (Brady, 2015; Clough & Bird, 2015; Clough et al., 2016; d'Abbs, 2015; d'Abbs & Togni, 2000; Maclennan, Kypri, Connor, Potiki, & Room, 2016; Marshall, 2015), sovereign Tribal nations in treaty relations with the U.S. enjoy the right to establish alcohol regulatory policies on their lands (Lujan, 1993; May, 1977; Mosher, 1975), which presents opportunities to consider unique cultural and contextual issues in efforts to reduce alcohol-related harms.

Methods

Our methods derive from our theoretical orientation, situated at the convergence of two mutually-reinforcing streams of thought: (1) recent developments in the philosophy of science (Edward, 2016; Latour, 2014; Ludwig, 2016), and (2) decolonization of research on Indigenous people (Smith, 2012). The first notes that scientific knowledge and practice may be limited by the manner in which scientific objects are constructed as empirically real (Law, 2008). For example, Law and Singleton (2005) suggest that taking “alcoholic liver disease” as an empirical object of scientific inquiry may occlude socially significant and more mutable (and from a public health perspective, actionable) relationships between alcohol, the human body, and wellbeing. This movement encourages revisiting the relationships between methods and scientific objects of study. The second movement further claims that unacknowledged biases towards Euro-American systems of knowledge reproduce social inequities which resulted from colonization (Walter & Andersen, 2013). Mainstream approaches to “alcohol problems” for Indigenous people may therefore occlude etiological considerations rooted in their lived experiences of alcohol. Indigenous scholars point to the conditions of colonial conquest, dispossession, and forced assimilation as profound etiological factors in problem drinking, which are nevertheless occluded in studies premised on alcohol problems as strictly genetic or psychopathological in origin (Duran & Duran, 1995; Gone, 2007; Walters et al., 2011). “Basic science” statistical analyses formulated on Euro-American standards may miss critical variables and interpretive frameworks important in considering alcohol problems among Indigenous people, and risk reinforcing constructions of Indigenous people as deficient and in need of rehabilitation (Walter & Andersen, 2013); subsequent intervention projects may fail to address underlying etiological factors or to recognize traditional uses of intoxicants, such as spiritual/ceremonial use (Gone & Looking, 2011; Nebelkopf et al., 2011). To reduce bias and decolonize scientific inquiry, Indigenous scholars advocate methods rooted in community engagement, in particular Community-Based Participatory Research, and qualitative approaches (Fisher & Ball, 2005; Fisher & Ball, 2003; Kovach, 2012; Smith, 2012; Wallerstein & Duran, 2010; Wendt & Gone, 2012).

Our project sought to identify culturally significant indicators of problems related to alcohol availability. Our methods therefore combined elements of Tribal community participatory research with qualitative inquiry to elicit these perspectives and to identify appropriate statistical measures. We conducted confidential interviews with leaders and community members representing key sectors of reservation society relevant to community alcohol systems (Holder, 1998; Treno, Gruenewald, Wood, & Ponicki, 2006; Wood & Gruenewald, 2006), and analyzed the notes and transcripts of these interviews for thematic content. We also assessed alcohol sales conditions in communities proximal to the reservation using a brief store audit to compare products and prices.

When the study began (2014), reservation residents lived in Tribally- and federally-established housing settlements, villages, and isolated household dwellings, connected by both paved and dirt roads. The reservation met official designations of rural (“non-urban,” defined as less than 50,000 residents) (Health Resources and Services Administration, 2017) and concentrated poverty (defined as 20% or more residents below federal poverty line)

(Bishaw, 2014). The majority of residents were Plains Indians and enrolled members of the Tribe governing the reservation.

The research for this report was conducted within a collaborative partnership of three nonprofit organizations. One partner was a local community development agency, directed by a member of the reservation's principal Tribe, with expertise in community engagement on the reservation. Another partner was a national scientific research institute, directed by a member of a nearby related Tribe, with expertise in Indian health research. Staff at both agencies included members of the reservation's principal Tribe. The third partner was a national scientific research institute, directed by non-Natives, with expertise in community alcohol systems and experience with community-partnered research with Tribal nations. The local community development agency was specifically motivated to better understand their ability to shape and manage the impacts of alcohol availability within their long-term community development plans. All partners shared an interest in promoting wellness through community engagement and data-driven practices, and all participated in the design and implementation of the research. The research protocol and this report have been reviewed and acknowledged by the Tribal review board and approved for human subjects' protection by the third partner's Institutional Review Board. Interview Sample and Recruitment. We interviewed people who were directly involved with and knowledgeable about the current system of alcohol availability and the impacts of this system on reservation residents. Whenever possible, the respondents represented the leadership of key Tribal or district organizations, and included Tribal elders. Potential respondents were identified and recruited primarily by staff from the local community development partner and by chain referral (Biernacki & Waldorf, 1981). Because we understood that alcohol availability was a contested issue, we deliberately sought individuals who could represent the range of opinions, including asking interview respondents to help us identify people whose views on alcohol availability might differ from theirs.

We focused on representatives of seven key community systems regarding access to and use of alcohol among reservation residents: (1) *political and regulatory systems* (elected Tribal leaders); (2) *transportation systems* (traffic safety officials); (3) *law enforcement* (police, judicial system, corrections officials); (4) *medical care facilities* (including behavioral health, primary care, substance abuse treatment); (5) *other social welfare services* (schools, child welfare); (6) *social, familial and community networks* (elders, traditional leaders, parents); and (7) *Tribal and local business interests* (community development, chamber of commerce, local food and beverage retailers).

We interviewed a total of 31 people. Many respondents had expertise in multiple community systems (for example, several community leaders had previously served in law enforcement; many respondents were parents; and some respondents were traditional leaders as well as service providers). Respondents ranged in age from approximately 30 to approximately 80 years old; included about as many women as men; and included people from nearly all districts across the reservation.

Interview Procedures

All interviews were conducted confidentially, in-person, and in English. We documented the interviews in detailed written notes and digital recordings (one respondent declined to be recorded but allowed detailed notes). Following methods developed in rapid assessment (Beebe, 2001; Rifkin, 1996), all interviews were conducted in a team structure, with one project member speaking with the respondent and one team member recording the interview in notes. In nearly all interviews, the interview team included a staff member from the local partner agency. All respondents were offered a cash incentive to compensate for their time and costs of participating. The interviews ranged in length from 30 minutes to over an hour. We obtained informed consent from all respondents.

The interviews followed a semi-structured guide. The topics were developed through conversations between the partner agencies, with feedback from the Tribal research review board. Topics discussed in this report include: Current alcohol availability and regulatory systems; local drinking styles; and alcohol impacts on individuals, families, and the tribe. Although we considered our respondents as key informants regarding local alcohol distribution systems and did not ask them about their own personal experiences with alcohol, some respondents described and reflected on their own alcohol-related experiences and/or those of family members or friends. Following the interviews and in consultation with the local community partner agency, we invited 8 key leaders to serve as a Community Advisory Board for this project to review reports and provide insights into interpretation of results.

All data—i.e., the detailed interview notes and the interview transcripts—were securely maintained on a website accessible to project team members of the three research partner agencies. Per agreement with the Tribal research review board, all Tribal, organizational, and respondent identities are concealed, and the data are property of the Tribe, but have been made available to all research partners for the duration of the study.

Analysis and Interpretation

Our analytic approach was guided by existing theoretical models of community alcohol systems (Holder, 1998), and thus some of our main thematic codes reflected *a priori* (pre-determined) system categories (e.g., health, social, and economic impacts of alcohol on the community). However, our approach was also informed by grounded theory (Glaser & Strauss, 1967) as we were attentive to context-specific emergent codes that did not fit our theoretical model (e.g., Tribal sovereignty; impacts across generations). Our methods, therefore, combined inductive and deductive reasoning (Bradley, Curry, & Devers, 2007) to create a modified, data-driven approach to Tribal community alcohol systems and impacts.

For preliminary thematic analysis (Boyatzis, 1998), two of the authors who are experienced qualitative data analysts reviewed the interview notes and manually coded any reference made by any interview respondent about impacts of alcohol and availability on the reservation. The analysts then organized these impacts into domains that cross-cut interviews, and sorted the domains into tabular form. All project team members reviewed and discussed the table, resulting in modifications and further analyses (Glaser, 1965). A preliminary version of the table was presented in poster form at a research meeting

sponsored by the Tribal research review board. Conversations with meeting participants and with the project's Community Advisory Board further developed our analyses and interpretation of the data; most importantly, meeting participants and board members were comfortable with the way these data were presented for public reporting, and reflected on possible data sources for future efforts at measuring impacts. For more detailed discussion, and to include verbatim responses in this report, we referred back to the interview transcript, which also allowed the analysts to recontextualize the data within interviews. Finally, we sorted the results into major themes, described below. We use English terms throughout to protect the Tribe's confidentiality.

Results

Alcohol Policy and Alcohol Availability

At the time of our study, Tribal law included a charge code for “public intoxication,” and because alcohol was completely prohibited, public safety and court officers could use the intoxication code in any instance of alcohol possession or consumption. However, officials reported that, in practice, if people were merely intoxicated, officers used the charge to place an intoxicated person in protective custody for up to 8 hours without further criminal proceedings.

They decriminalized that portion of it. We don't have a detox facility, so unfortunately – or fortunately, however way you look at it - jail is the only option. Rather than them just being out in the cold. Sometimes in the winter we see a lot of individuals getting arrested for the eight hours--put in protective custody for eight hours, because there's nowhere else to put them. [Int001]

As an offense, the intoxication code was said to be primarily used in conjunction with other charges, including disorderly conduct. Other alcohol-related violations included driving under the influence (DUI), child abuse/neglect, and child endangerment. As several service providers noted, because alcohol is illegal, a person drinking or possessing alcohol in the presence of a child could be charged with child abuse/neglect or endangerment, depending on the circumstances. Officials estimated that 90% or more of arrests and criminal cases included the intoxication charge, i.e., were alcohol-involved.

Reservation residents could obtain beer at off- and on-sale establishments in nearby border towns. Although some respondents reported that the state police near the reservation border had “cracked down” on DUIs (which penalizes the consumer), restrictions on sales to intoxicated people (which penalizes the merchant) were said to be under- or un-enforced in border towns: “*The lack of being really concerned about who they serve to, or limits or selling to people who are already intoxicated or people who clearly should not be served in other places, those are the things that are not considered.*” [Int028] Beer, wine, and spirits could also be obtained at on-and off-sales licensed alcohol outlets in towns and cities within a two-hour drive from the reservation. Reservation residents frequently traveled to these communities to purchase groceries and other goods, to visit relatives, and for entertainment and work.

Tribal law also included a charge code for the sale, distribution, or transportation of alcohol on the reservation. However, most of the interviewees stated that alcohol was readily available on the reservation from bootleggers. Bootleggers were said to resell alcohol obtained from off-reservation sources rather than manufacture their own alcoholic beverages. Respondents reported that there was at least one bootlegger operating in nearly every village on the reservation, except those villages near border towns where there were bars.

There's bootleggers all over, and everybody knows who they are, including our students. We even had cases last year, where some of our students were stopping by there and obtaining alcohol and drugs before school. They don't care. They'll sell to anybody. They're there and, if people really want to get it, they can get it. [Int006]

Although the Tribal public safety department conducted roadside checks for intoxicated drivers, the agency did not have the capacity to check all vehicles traveling onto the reservation for transportation of alcohol. Enforcement of laws prohibiting bootlegging was also said to be stymied by community members' reluctance to testify against bootleggers. The reservation community is tightly connected by kinship networks. Bootleggers might be family members or neighbors whom one might not want to see arrested, and respondents noted that there was a risk of reprisals from bootleggers' families. Additionally, law enforcement officers noted that legal procedures conflicted with local traditions and tendencies:

They want to be verbal. As you know, we're oral tradition. Unfortunately, we [law enforcement] have to have something to fall back on. But no one wants to give us a written statement. [Int007]

Impacts of Alcohol Use and Availability on People Who Drank

Respondents reported drinking and problem drinking among reservation residents despite the ban on alcohol. Some respondents reported having observed a range of drinking styles for people living on the reservation:

You have a certain amount of people that can handle it. They're social drinkers. They'll drink all weekend when they're not working, and then there's the people that just won't let it go. We have our alcoholics. [Int026]

Some respondents also noted that many people were “sober,” either from never having drunk alcohol, or from having quit. One respondent observed that drinking invariably tended to be problematic. It was not clear to what degree these observed patterns could be attributed to the illegal status of alcohol. Some respondents noted that because it was illegal, people with alcohol were more likely to “drink up” to avoid being caught drinking, leading to heavy episodic drinking:

They drink until they can't drink no more, the drinking people. Because it's a dry reservation, they've got to drink it all or eventually it winds up at the courthouse. They get busted and the cops take it away, and so they drink it up. [Int023]

The current state of data made it difficult to statistically assess drinking among reservation residents. Respondents stated that at the time of our study, most of the available alcohol use

data maintained by the Tribe were based on individuals in treatment, and the extent of drinking and problem drinking broadly across the reservation population was not known. In response to our query about reports of extremely high rates of “alcoholism” among the Tribe, one health official replied, “*I’ve seen those things. We do not know where [those estimates] come from. It’s not based on science.*” [Int028]

Morbidity and mortality

In terms of health impacts of alcohol use for individuals, respondents cited cirrhosis: “*If you look at our people, a lot of our people are dying from cirrhosis, even at a young age. We have 28, 27-year-old males dying from cirrhosis, which ain’t good.*” [Int003] Drinking alcohol was also said to aggravate chronic conditions such as diabetes and heart disease and to increase rates of mortality from these conditions, as well as to worsen mental health conditions such as depression.

In addition, an individual’s drinking could lead to injuries. Injuries could result from an intoxicated person being vulnerable to violent victimization, or from getting injured in a fight. One respondent noted the tendency for many people to get involved when fights broke out. Individuals were also injured from being in car crashes due to driving under the influence, or riding with a drunk driver—in this regard, healthcare providers identified single vehicle crashes rather than multi-vehicle crashes, which were said to be rare. Driving under the influence was associated by several respondents with the illegal status of alcohol: people who wanted to get a drink were obliged to either get it from a bootlegger, which often involved added costs, or going off-reservation (making a “beer run”). In the latter situation, drinkers might be encouraged to drink up their supply quickly and get rid of the evidence.

Other types of injuries elsewhere associated with mortality among American Indians however, were reported to be uncommon for residents of this reservation. These included exposures to extreme cold—even though temperatures were often well below freezing in the region—and pedestrian injuries. Healthcare providers in our study speculated that outdoor drinkers “*know how to take care of themselves; they make a fire, they cover up.*” [Int025] Other respondents noted that one advantage of people going to drink at nearby border towns was that it was easy for their family members to find intoxicated relatives there, to bring them back home to the reservation, out of the cold and other dangers.

Other impacts with long-term consequences were also noted. One salient impact was job loss, when an individual’s drinking impaired their ability to work. In turn, unemployment may contribute to excessive drinking. Wage labor opportunities were scarce, whether on or off the reservation. In addition, individuals who were charged and found guilty of a felony were barred from Tribal employment of any kind: “*Can’t run for office, can’t get a job as a secretary, can’t get a job as a trash collector, cannot work for the tribe.*” [Int028] As Tribal employment was a primary source of wage labor on the reservation, arrest and conviction could thus impact an individual’s life long-term as well as short-term economic well-being. Lack of meaningful work could in turn support heavy drinking:

In our culture - the men - many of them have lost focus of their roles, and that brings upon shame to them, so they turn to alcohol to feel better. Whereas, if there

were opportunities, I'm sure they would take advantage of it. If there were jobs, I'm sure they would take advantage of it to support their families because they want to support their families. They love their families. But, they are really in a cycle of suppression that's been generational. They just don't see no other way. [Int006]

Respondents also noted impacts of alcohol and availability on the social and spiritual well-being of individuals. People who were observed intoxicated, whether on or off reservation, risked social stigma. In particular, people who were consistently visibly intoxicated in border towns were vulnerable to concerns about what one healthcare provider referred to as “*complete demoralization*”: “*People are very low when they get to the point of buying alcohol in X Town; everybody knows what that is. That's a person who has really lost a lot.*” [Int028] However, the same respondent noted that these same individuals could turn around and stop drinking, without apparent negative social consequences. Indeed, several of our respondents referred to periods of heavy drinking in their own lives or the lives of close family members; their comments expressed compassion and insight but little or no moral judgement.

We get disconnected through trauma, through a lot of different things. And we get disconnected from our center, then we will start looking for it through alcohol, relationships, job, a lot of different things. And we're looking for it out there when we really got to take that time to reconnect here. And so I think that what alcohol does for me is it separates me from my center. Sometimes I fall off my horse and sometimes I get disconnected from my center, which is human, but each day I try to be a better human being. And I know that the person I was when I was drinking didn't have those qualities or even thoughts. I was disconnected. Budweiser was my god [laughs]. He cured everything, I thought. That's my personal experience. That's what alcohol did for me. It separated me from spiritual values and family. [Int002]

The impacts of alcohol use and availability on the spiritual lives of the people of the reservation and the Tribe as a whole were deeply troubling issues for many respondents, and some expressed anxiety or mixed feelings about the prospect of legalizing alcohol: “*Because the way I know, and I was taught, is that alcohol has a spirit and it's not a good one.*” [Int020] Many people in our study understood that for some of their relatives, alcohol and indigenous spiritual life could not mix. People noted that following a spiritual path precluded using alcohol at all, and that alcohol had no place in spiritual ceremonies. Spirituality was also seen as a bulwark against alcohol and drug problems, and several people reported ways in which connecting or reconnecting with their spirituality and spiritual practices had supported their own or their friends or family members' sobriety:

There's a lot of strong willed people that don't pay attention to it [alcohol]. Like me and my boyfriend have been sober for a long time. We choose to be alcohol and drug free. We're role models for some people. A lot of little kids look up to us and my boyfriend knows how to sing pow-wow in [our language], and does his sweat [ceremony] and everything. There's a lot of young boys that come to him and want that guidance for a better life because they're into that drug and alcohol, and he helps out a lot by doing that. Singing with them, teaching them. We do a lot of

spiritual things and go to Sun Dances and stuff. That helps us stay away from the people that do that, that come around like that, drunk and stuff. [Int027]

Impacts of Alcohol and Alcohol Availability Across Generations

The most devastating impacts of alcohol, cited by nearly all of our respondents, were the impacts of adult drinking on the mental and behavioral health of children and adolescents. Most critically, adult drinking was linked with assaults and particularly sexual assaults on youths, and with child and adolescent suicide, through socio-economic conditions that put vulnerable youths into adult drinking contexts.

Respondents noted that their traditions emphasized the importance of taking care of family members, including providing housing. Limited and poor housing stock, however, resulted in overcrowding: “*We have people - multiple families - living in one home, and the homes probably should be condemned.*” [Int006] In these homes it would be difficult for youths to avoid adults who were drinking, particularly when adults hosted drinking parties. Some respondents noted that reservation residents, even those near border towns, generally preferred to drink at home rather than at off-reservation bars. This was attributed to the increased risks for DUI and racially-charged violence off-reservation. Tribal public safety officials noted that drinking parties were common enough that officers referred to service calls related to public disturbances as HP (house parties) versus IP (individual person) calls [Int007]. Respondents linked house parties with Tribal housing settlements, where not all residents were kin, and subsequently where clear leadership and social control were lacking. Other risky situations were house parties in remote areas not easily monitored by public safety officers. These circumstances were said to lead in too many instances to assaults and sexual assaults on vulnerable children.

Children were said by many respondents to be considered sacred and to represent the future of the nation. Assaults on children were a source of great distress. Respondents invariably associated adults' assaults on children with drinking:

I see lots of good people, but they have good hearts, they mean well, but once they have alcohol, they do horrible things that can't be taken back. Whereas, if these people weren't intaking that alcohol, they'd probably wouldn't have done those things and made better choices. It has a huge impact on our people in that sense. [Int006]

Sexual assaults on children were said to result in trauma, post-traumatic stress, anxiety and despair for kids, and in some cases to suicidal ideation, suicide attempts, and suicide completion. Child and adolescent suicide was a source of deep sadness that impacted not only the families of those who died, but also their friends, extended kin, and class- and schoolmates, as well as the first responders, school staff, and social services providers. Indeed, because of close kin networks, suicides touched just about everyone on the reservation: “*It has that spiderweb effect.*” [Int002]

Children were also impacted by parents' drinking when it meant that limited cash resources went to purchase alcohol and drugs. Respondents noted that teens were acutely aware of clothes styles and vulnerable to teasing about their appearance when their clothes were seen

as worn-out or unfashionable. When parents received subsidy funds at two times in the month, some children skipped school to go to town with them to ensure that these funds were spent on basic needs—food and clothing—rather than alcohol and drugs.

Our attendance shows a lot. For the most part, we have really good attendance because kids want to be here. But, like the beginning of the month, it may be down because they don't trust their parents. They want to make sure they go with them to spend the money, or whatnot. A lot of times that happens. We'll see a little bit of dip there. Also when the EBT [Electronic Benefits Transfer—state welfare funds] comes out, you'll see a dip [in attendance] there because they'll go with their parents then, too. It's survival, yeah. [Int006]

In addition to missing school, school staff noted patterns of kids “acting out” during these times of the month and having a hard time concentrating in school. School performance for some kids was also said to be impacted toward the end of the week by their anxiety about upcoming weekends, with inevitable drinking parties at home, and in general by constant exposure to alcohol-related trauma. Parents heavily involved in partying and drinking were said to be neglectful, leaving kids to be cared for by grandparents or to fend for themselves. As with impacts on individuals, it was not clear whether and how these secondary impacts of drinking on family members could be attributed to the current systems of alcohol availability; although some respondents speculated that the illegal status of alcohol more or less obliged drinkers to drink in the home.

Although there has been a good deal of public health attention on Fetal Alcohol Spectrum Disorder (FASD) among American Indians, only three respondents mentioned impacts of women drinking during pregnancy on pre- and post-natal health. One healthcare worker stated that this might be difficult to assess at birth. The other two respondents who mentioned FASD reported that it was perhaps less common than children born to mothers with other drug use:

In the past, it's all about FASD, kids being Fetal Alcohol Spectrum Disorder. And now the trend is more drug effect to babies, which would coincide to what we're seeing in criminal adult side, with the meth, the pills, the marijuana. [Int001]

Impacts of Alcohol Use and Availability on Tribal Service Systems

The impact of alcohol was felt in nearly all aspects of Tribal service systems, including public safety, courts, health care, and social welfare. Respondents estimated that 90% of all police service calls were alcohol-involved, and 90% of police time was spent dealing with checking out these calls, making alcohol-involved arrests, following up in criminal proceedings, and paperwork. Highway safety also was highly impacted by alcohol issues, with an estimated 80% of service calls being alcohol-involved. Respondents estimated that, in Tribal jails, 99% of inmates were there on alcohol-involved issues, and in the courts 90% of criminal cases were said to be alcohol-involved. At the time of our study, Tribal data systems did not yet allow for tracking recidivism, but officials estimated that it was high, with a relatively small number of individuals contributing to a large number of cases.

Nearly all respondents reported that all of these Tribal systems were understaffed and backlogged, some by as many as 6 months. Police officers were severely taxed in their efforts to respond to calls across the long distances, particularly in winter when road conditions could be perilous. Many officers were additionally working very long hours with little release time. Respondents also mentioned alcohol-involved costs to the well-being of Tribal officers. As first responders and case workers handling car crashes, suicides, and other traumatic events, many Tribal safety officers and health and social service providers were themselves traumatized, but respondents reported limited resources to support these staff members.

Similarly, respondents reported that Tribal healthcare systems were underequipped to address alcohol-related health issues. The Tribe maintained residential and outpatient treatment facilities for people with substance use disorders, but these were small compared to the need: of the hundreds of people arriving to the system for services per year, an official estimated that only 20% received treatment.

We don't have a detox center. We don't have a treatment center. Well, we have a small treatment center but there's no follow up for alcoholism. These are the areas we're looking at and building good treatment center, good detox center to help our people. [Int017]

People in need of extensive or intensive substance abuse treatment services were obliged to travel to distant cities, many hours away by car. As well as removing people from the security of the reservation, this situation created further burdens on family members who were obliged to spend money on gas and accommodations to visit these loved ones (in addition to court costs, which might be considerable, and loss of income).

Although the federally-funded Indian Health Service (IHS) did maintain a hospital with an Emergency Department on the reservation, major traumas such as alcohol-involved car crashes required that injured people be airlifted to trauma centers in nearby cities, after first being evaluated and stabilized at the IHS facility. The costs of these airlifts, estimated at many thousands of dollars per crash, as well as costs for family visits to the injured loved ones, were said to be borne by the Tribe.

Economic Impacts of Alcohol's Illegal Status

The illegal status of alcohol provided economic opportunities for entrepreneurial individuals and families willing to take the risk of selling alcohol illegally. Bootlegging could be a vital source of income, in particular in an area with very few opportunities for employment. Because they operated on a cash basis, bootleggers also played a role in the local exchange economy in which barter of goods (e.g., beadwork, cooked foods) and services (e.g., childcare, transportation) supported individuals and families. Such resources could be vital to families living close to the margin.

In terms of legitimate businesses, the illegal status of alcohol on the reservation was noted as a loss of potential profit income for reservation retailers, and a loss of potential tax for the Tribe. In contexts where alcohol is legalized, alcohol sales represent a substantial source of revenue for merchants. The U.S. convenience store industry recommends a 26% mark-up for

beer (National Parks Service, 2012). While other items may have higher mark-ups (for example, 106% is recommended for candy, 364% for ice), high volume of sales can offset modest mark-ups, and merchants can set higher prices according to demand and other factors. We documented the costs of off-sales beer in the nearest city and in border towns. Border town prices were higher than in the city. In the nearest border town, the average price for a case of beer was 44% higher than in the city, and single cans of beer sold for as much as \$2.50 (213% over the relative price in town). By contrast, there was somewhat less difference (13.8%) in average prices for other alcoholic beverages (hard lemonade) in the border town stores compared to the city, and cigarette prices in the border town stores were even slightly lower (2.8%) than in the city.

Recapturing some of the money Tribal members spent on alcohol in border towns was a key motivation for legalizing alcohol sales on the reservation. Respondents noted that taxes on alcohol sales could fund a Tribal detox facility and possibly other much-needed social services such as a safe-house for women and children (at the time of our study, there were none). However, some respondents expressed concerns that the taxes generated on top of alcohol sales, after state taxes, would not be enough for such ventures, and concerns that any tax revenues accrued would simply be absorbed into general operating funds.

At the same time, reservation retailers were uncertain whether they would offer alcohol if it was allowed. On-premise establishment managers acknowledged that they lost revenue in potential alcohol sales—in particular, they noted potential sales of alcohol to tourists who visited the reservation in the summer months: *You get tourists coming in, you know, they like to sit, and eat, and have a glass of wine, or beer, or something. And it isn't available here. [Int029]* However, on-premise retailers expressed concern about their ability and willingness to deal with intoxicated customers.

Some respondents, including members of the business community, expressed concerns about impacts on children should alcohol be legally available. Respondents did note, however, that children already had easy access to alcohol through bootleggers. Bootleggers were said to sell alcohol to anyone, regardless of age or condition; and some respondents considered that having a regulatory system in place would allow better control of alcohol access.

Self-Determination

Other impacts included the implications of alcohol availability for Tribal sovereignty. Some respondents noted that prohibition of alcohol was a condition of the Tribe's treaty with the federal government, and allowing alcohol sales would void the treaty and thus gravely undermine all other treaty conditions (including federal provision of aid and Tribal rights to land and self-governance). Others, noting this concern, stated that the federal government did not honor the treaty anyway, as evidenced by continual expropriation of Tribal lands, imposition of non-indigenous political systems, and inadequate provision of federal aid. Some respondents stated that legalizing alcohol would be an expression of Tribal sovereignty: the Tribe can and should determine its own alcohol regulatory system just as it determines all other dimensions of its political, economic, and social life. One noted that by not having an alcohol policy, the Tribe was abdicating its sovereignty: *“To be sovereign, you have to practice it.”* [Int029] However, some respondents were concerned that, because the

federal Indian alcohol code states that Tribal alcohol policies must adhere to state alcohol control systems, regulation of alcohol might unnecessarily invite state agency into Tribal affairs.

Because I think the Tribe might have to abide by some of the state laws on alcohol. Beer trucks or whatever coming into the Rez. I'm not sure how those things work, so it might. Right now, I'll tell you that a state trooper, or a sheriff, any state law enforcement guy has to contact the Tribal chairman to come onto the Rez. Even that county guy that comes around, he has to get permission to come down. So if that [legalization] opens up, it might [change things]. [Int004]

Respondents noted that Tribal ambiguity about alcohol legalization was rooted in historical relationships and in debates about future directions as much as concerns about risk and profits.

This is a very spiritual place, so it's not surprising that people have resisted the legalization of alcohol. We don't even think in terms of policy. Alcohol means being defeated. We were the last to surrender, we never want to be defeated. When they told us in ceremonies a long time ago that the white man is the enemy, now drugs and alcohol are the enemy. That's why traditional people say "no way" because it contradicts what we were told in the ceremony. It's not a part of our way of life. It's part of the colonized culture that we have today. [But] my personal belief is that by not doing anything, we're not doing anything. By letting it be in our communities without regulating, letting our people be the way they are, that's an act of surrender. I don't know the answer, but what we're doing now is not working. [Int031]

Discussion

This qualitative study aimed to identify locally meaningful ways to assess the impact of alcohol availability on the lands of a sovereign Tribal nation where alcohol was banned. This was important for conceptualizing the potential impacts to the Tribe and reservation residents of changing the conditions of alcohol availability. Availability may change due to conditions internal to the community—such as changing the legal status of alcohol on Tribal lands—or external to the community—such as changes in the supply of alcohol outside but near to Tribal lands. Few studies have assessed the impacts of internal changes (May, 1975), and to our knowledge there have been no impact analyses following external changes. Impacts of alcohol availability have typically been assessed using measures developed by non-Indigenous scientists, based in non-Indigenous scientific paradigms. Our respondents described constructs which are both commonly (e.g., health outcomes) and less commonly (e.g. self-determination) measured in impact analyses of alcohol availability.

Illness and Injury

Many of the negative impacts described by our respondents resonated with the types of alcohol-related problems which are typically measured using archival or survey data. These include intoxication; cirrhosis; depression; and injuries from alcohol-related assaults or car crashes. Although our respondents noted that data on the prevalence of alcohol use and abuse was not necessarily maintained, alcohol-related illnesses and injuries may be

assessed using population level datasets (Emerson et al., 2017; Grant et al., 2015; Ponicki et al., In Press). Alcohol-related problems which have previously been noted among American Indians (e.g., hypothermia; pedestrian injury; FASD)(Centers for Disease Control and Prevention, 2013; Gallaher, Fleming, & Berger, 1992; Khan, Robinson, Smith, & Dillard, 2013; Landen, Roeber, Naimi, Nielsen, & Sewell, 2014; Landen et al., 1997; Pollack, Frattaroli, Young, Dana-Sacco, & Gielen, 2012; Szabo, 1991) were reported as rare or not salient by our respondents.

Alcohol-related Crime and Underemployment

Our respondents reported consequences of alcohol use that are less commonly assessed. These include arrest and imprisonment for alcohol-involved crimes (Feldstein, Venner, & May, 2006; May, 1975; Stewart, 1964) and subsequent loss of eligibility for Tribal employment, which to our knowledge has not been previously reported. As noted by the respondents, the consequences of alcohol-related convictions on an individual's employability can have ripple effects on their families and communities (Wildeman & Western, 2010) as well as on their own substance use (Popovici & French, 2013). The labor market consequences of alcohol- and other drug-related offenses are not yet well-articulated (Western, Kling, & Weiman, 2001), including for AI/ANs. Impacts of drug-related arrest and incarceration on employment outcomes have been assessed within cohort studies (Clifasefi, Lonczak, & Collins, 2017; Nally, Lockwood, Taiping, & Knutson, 2014) and archival records (Mitchell, 2016). One clinical study of AI/ANs included both offending and employment as variables, but the researchers operationalized employment as an outcome of treatment rather than of drug-related offending (Evans, Spear, Huang, & Hser, 2006).

Child Wellness

Despite acknowledging a range of alcohol-related harms, our respondents did not report widespread problem drinking among reservation residents. This is consistent with studies finding AI/ANs less likely to consume alcohol compared to other U.S. race/ethnic populations (Beals et al., 2003). In a small, tight-knit community, however, there is the potential for even a small number of problem drinkers to create problems for others. For example, limited housing stock has concentrated people within homes, which was described as increasing opportunities for problematic drinking to occur near vulnerable children—an effect which has been noted in other rural Tribal communities (Beals et al., 2009). Transgenerational effects on children of problematic adult drinking have been reported elsewhere (Koss et al., 2003; Libby, Orton, Beals, Buchwald, & Manson, 2008); our respondents noted that school attendance and school performance, as well as child welfare referrals and child behavioral health outcomes, may be able to be tracked as indicators of transgenerational effects of alcohol availability. Such records may be maintained within or across schools and school districts.

Border Towns, Bootlegging, and Revenues

Restricted access to alcohol creates economic opportunities in border towns immediately adjacent to the reservation. These economic opportunities in turn create environmental conditions (e.g., high outlet density) which contribute to alcohol problems (e.g., sales to intoxicated patrons, public drinking). Restricted alcohol access also creates economic

opportunities for reservation residents. As noted in previous studies of bootlegging across state lines, the risks associated with this illegal trade justify whatever surcharge the bootleggers wish to charge (Tyrell, 2015). A change in bootleg sales would be a useful means to measure the effects of any change in alcohol availability. In our study, however, we were unable to recruit avowed bootleggers to interviews. Changes in border town sales might be more readily assessed, as they occur in licensed sales outlets. In the United States, however, alcohol sales data are not typically made public. In lieu of sales data, community surveys may be used to assess reservation residents' use of these two sources of alcohol, although reservation residents may not respond truthfully without assurances of anonymity. Legalized sales on reservation may allow for an assessment of increased revenues for food and beverage retailers who chose to sell alcoholic beverages, were the Tribe to collect such revenue data.

Tribal Services

Many of our respondents noted the heavy impact of alcohol on already under-resourced Tribal services. As in other communities, Tribal authorities may wish to understand the fiscal impacts of changes in alcohol availability, including burdens to social services. Service utilization data may be limited in any number of ways. Tribal officers and social service staff may have insufficient time and resources to provide detailed records of calls for services, cases, and case dispositions. Records systems may not allow for identification of recidivism. As a rough estimate of impacts, however, Tribal service costs may offer a means to quickly assess the impact of changes in alcohol availability.

Spirituality and Traditional Culture

Many scholars have identified associations between disordered alcohol use and traumas related to colonization and loss of traditional practices and lifeways among AI/ANs (Brave Heart, 2004; Duran & Duran, 1995; Duran et al., 1998; Walters et al., 2011) and other “4th world” (i.e., colonized indigenous) peoples (Brady, 2000), and the impact on substance use of on-going trauma (Emerson et al., 2017). There is increasing enthusiasm for engagement with traditional cultural and spiritual practices as a means to reduce and prevent behavioral health problems (Brady, 1995; Donovan et al., 2015), as noted by some of our respondents, and demand for the development and evaluation of appropriate tools (Gone, 2009; Gone & Looking, 2011; Nebelkopf et al., 2011). Because some cultural practices constitute ritually protected ceremonies (Hernandez-Avila, 1996), measuring spiritual/cultural engagement at the community level may be challenging. Within community or cohort surveys, however, cultural engagement may be assessed broadly (Paulsen & Merighi, 2009) or with reference to specific types of cultural knowledge and practice (Houkamau & Sibley, 2010; Snowshoe, Crooks, Tremblay, Craig, & Hinson, 2015).

Self-Determination

In the United States, federally-recognized Tribes are empowered to enact their own alcohol regulatory systems. In this way, Tribal nations differ markedly from U.S. states, and from indigenous communities experiencing community alcohol problems in, for example, Australia, New Zealand, or Canada (Brady, 2000; Langton, 2001). Since alcohol is known to have been used as a tool by colonial agents and traders to facilitate deals and treaties which

were disadvantageous, if not disastrous, to Tribes (Unrau, 1996), it is unsurprising that alcohol was viewed by some of our respondents as a potential threat to Tribal self-determination. Given the lack of a consistent stance across the respondents, our findings do not support assessing self-determination effects simply by whether a Tribe has enacted an alcohol regulatory system. As noted by some of our respondents, full Tribal sovereignty may be constrained by relations with state and federal agencies. For example, U.S. Public Law 280 (1953) fully or partially transferred legal jurisdiction over Indian affairs to state and local governments in several states, including most Western and Great Plains states where the largest numbers of AI/ANs reside (Gardner & Melton, 2003; Wells & Falcone, 2008). In many cases federal funds for law enforcement are not made available to Tribes subject to P.L. 280, leading to “lawlessness” via unfunded mandates as well as jurisdictional gaps and vacuums (American Indian Development Associates, 2002). As some respondents noted, treaty terms between Tribes and the federal government may also impinge on local regulation of alcohol. Thus, Tribal alcohol regulatory systems may interact with federal, state, and local systems of governance in complex ways. Effects on Tribal self-determination, therefore, would need to be assessed with regard to the broad and diverse sociopolitical contexts in which Tribal Nations operate.

Conclusions

Given the relative lack of Indigenous perspectives in research on community alcohol systems, this qualitative study aimed to identify impacts of alcohol availability beyond those typically assessed in alcohol studies conducted with non-Indigenous communities. Our qualitative and community-engaged methods enabled us to develop a more nuanced understanding of these impacts, taking into account critical social contextual factors described by interview respondents. Our methods also enabled us to directly include the voices of community members in this presentation. These methods may be broadly applied to studies of policies to reduce harms related to alcohol and other drugs for Indigenous communities.

In our results, impacts were found to resonate in complex multi-dimensional ways: health and social consequences along a person's life span and in the lives of their family and community members; economic and political consequences in Tribal social institutions and self-determination. Our analysis showed that existing theoretical models of community alcohol systems models may require modification in order to include locally salient impact categories. It also highlighted the complex social, economic, and political forces with which Tribal leaders struggle when formulating Tribal alcohol policies. Alcohol availability and impacts are inextricably linked to historical trauma, Tribal sovereignty and self-determination in ways that have no analog in non-Indigenous communities. Some of these impacts have been measured in other contexts, for example impacts on children of adult alcohol misuse; other impacts such as impacts of alcohol-related criminal records on employment are understudied but may be assessed through archival or survey data.

Our study was limited to one Tribal community, and our sample of respondents were non-randomly selected. Nevertheless, our sample represents a range of community experts with deep personal and professional knowledge of the alcohol environment of their community.

We believe their insights can guide future efforts to assess and reduce harms related to alcohol availability in Tribal nations. In particular, a Tribal participatory approach to assessing alcohol-related harms can yield a powerful analysis of impacts that are meaningful to Tribal communities, and identify tools that Tribal communities may use to assess the effectiveness of interventions to reduce and prevent alcohol harms.

Acknowledgments

We wish to thank the people who participated in this study, especially people who participated in interviews; members of project's Community Advisory Board; members of the Tribal research review board; and staff members at the collaborating partner agencies who supported the research and production of this report. This work was funded by the National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health (#P60AA006282-32S2; P. Gruenewald and #R01AA023085; J. Lee), and the Native American Research Centers for Health initiative of the Indian Health Service and the National Institutes of Health (#S06GM092240; J. Henderson).

References

- Alexander, B. *The Globalization of Addiction: A Study in Poverty of the Spirit*. Oxford University Press; 2010.
- American Indian Development Associates. *Indian Country Law Enforcement and the Challenges of Enforcing Underage Drinking Laws*. 2002 Retrieved from.
- Babor, T. *Alcohol: No Ordinary Commodity: Research and Public Policy*. New York: Oxford University Press; 2010.
- Beals J, Belcourt-Dittloff A, Freedenthal S, Kaufman C, Mitchell C, Whitesell N, et al. Walters K. Reflections on a proposed theory of reservation-dwelling American Indian alcohol use: Comment on Spillane and Smith (2007). *Psychological Bulletin*. 2009; 135(2):339–346. DOI: 10.1037/a0014819 [PubMed: 19254084]
- Beals J, Spicer P, Mitchell CM, Novins DK, Manson SM, Big Crow CK, et al. Yazzie LL. Racial disparities in alcohol use: Comparison of 2 American Indian Reservation populations with national data. *American Journal of Public Health*. 2003; 93(10):1683–1685. DOI: 10.2105/ajph.93.10.1683 [PubMed: 14534221]
- Beebe, J. *Rapid Assessment Process*. Walnut Creek, CA: Altamira Press; 2001.
- Biernacki P, Waldorf D. Snowball sampling: Problems and techniques of chain referral sampling. *Sociological methods & research*. 1981; 10(2):141–163.
- Bishaw, A. Changes in areas with concentrated poverty: 2000–2010; American Community Survey Briefs. 2014. Retrieved from <https://www.census.gov/content/dam/Census/library/publications/2014/acs/acs-27.pdf>
- Boyatzis, RE. *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks, CA: SAGE; 1998.
- Bradley EH, Curry LA, Devers KJ. Qualitative Data Analysis for Health Services Research: Developing Taxonomy, Themes, and Theory. *Health Services Research*. 2007; 42(4):1758–1772. DOI: 10.1111/j.1475-6773.2006.00684.x [PubMed: 17286625]
- Brady M. Culture in treatment, culture as treatment. A critical appraisal of developments in addictions programs for indigenous North Americans and Australians. *Social Science & Medicine*. 1995; 41(11):1487–1498. [PubMed: 8607039]
- Brady M. Alcohol policy issues for indigenous people in the United States, Canada, Australia and New Zealand. *Contemporary Drug Problems*. 2000; 27(3):435–509.
- Brady M. Failing to 'carry the people along'. *Drug & Alcohol Review*. 2015; 34(5):471–472. DOI: 10.1111/dar.12298
- Brave Heart, MYH. The historical trauma response among Natives and its relationship to substance abuse: A Lakota illustration. In: Nebelkopf, E., Phillips, M., editors. *Healing and Mental Health for Native Americans: Speaking in Red*. Walnut Creek, CA: AltaMira Press; 2004. p. 7-18.

- Brave Heart MYH, DeBruyn LM. The American Indian holocaust: Healing historical unresolved grief. *American Indian and Alaska Native Mental Health Research*. 1998; 8(2):60–82. DOI: 10.5820/aian.0802.1998.60
- Centers for Disease Control and Prevention. Motor vehicle traffic-related pedestrian deaths - United States, 2001-2010. *Morbidity Mortality Weekly Report (MMWR)*. 2013; 62(15):277–282. [PubMed: 23594683]
- Chaloupka FJ, Grossman M, Saffer H. The effects of price on alcohol consumption and alcohol-related problems. *Alcohol research and health*. 2002; 26(1):22–34. [PubMed: 12154648]
- Clifasefi SL, Lonczak HS, Collins SE. Seattle's Law Enforcement Assisted Diversion (LEAD) program: Within-subjects changes on housing, employment, and income/benefits outcomes and associations with recidivism. *Crime & Delinquency*. 2017; 63(4):429–445.
- Clough AR, Bird K. The implementation and development of complex alcohol control policies in indigenous communities in Queensland (Australia). *International Journal of Drug Policy*. 2015; 26(4):345–351. DOI: 10.1016/j.drugpo.2015.01.003 [PubMed: 25677070]
- Clough AR, Margolis SA, Miller A, Shakeshaft A, Doran CM, McDermott R, et al. West C. Alcohol control policies in Indigenous communities: A qualitative study of the perceptions of their effectiveness among service providers, stakeholders and community leaders in Queensland (Australia). *International Journal of Drug Policy*. 2016; 36:67–75. DOI: 10.1016/j.drugpo.2016.06.015 [PubMed: 27518836]
- d'Abbs P. Reform and resistance: Exploring the interplay of alcohol policies with drinking cultures and drinking practices. *Contemporary Drug Problems: An Interdisciplinary Quarterly*. 2015; 42(2): 118–129. DOI: 10.1177/0091450915587535
- d'Abbs P, Togni S. Liquor licensing and community action in regional and remote Australia: a review of recent initiatives. *Australian & New Zealand Journal of Public Health*. 2000; 24(1):45–53. [PubMed: 10777978]
- Donovan DM, Thomas LR, Sigo RLW, Price L, Lonczak H, Lawrence N, et al. Price J. Healing of the canoe: preliminary results of a culturally grounded intervention to prevent substance abuse and promote tribal identity for native youth in two Pacific northwest tribe. *American Indian And Alaska Native Mental Health Research (Online)*. 2015; 22(1):42. [PubMed: 25768390]
- Duran, E., Duran, B. *Native American Postcolonial Psychology*. Albany NY: SUNY Press; 1995.
- Duran, E., Duran, B., Brave Heart, MYH., Yellow Horse-Davis, S. Healing the American Indian soul wound. In: Danieli, Y., editor. *International Handbook of Multigenerational Legacies of Trauma*. New York, NY: Plenum Press; 1998. p. 341-354.
- Edward M. From actor network theory to modes of existence: Latour's ontologies. *Global Discourse*. 2016; 6(1-2):1–7.
- Emerson MA, Moore RS, Caetano R. Association between lifetime posttraumatic stress disorder and past year alcohol use disorder among American Indians/Alaska Natives and Non-Hispanic Whites. *Alcoholism: Clinical & Experimental Research*. 2017; 41(3):576–584. DOI: 10.1111/acer.13322
- Evans E, Spear SE, Huang YC, Hser YI. Outcomes of drug and alcohol treatment programs among American Indians in California. *American Journal of Public Health*. 2006; 96(5):889–896. DOI: 10.2105/AJPH.2004.055871 [PubMed: 16571710]
- Feldstein SW, Venner KL, May PA. American Indian/Alaska native alcohol-related incarceration and treatment. *American Indian and Alaska Native Mental Health Research*. 2006; 13(3):1–22. DOI: 10.5820/aian.1303.2006.1
- Fisher P, Ball T. Balancing empiricism and local cultural knowledge in the design of prevention research. *Journal of Urban Health*. 2005; 82(Supplement 3):iii44–iii55. [PubMed: 15933330]
- Fisher PA, Ball TJ. Tribal Participatory Research: Mechanisms of a collaborative model. *Am J Community Psychol*. 2003; 32(3-4):207–216. DOI: 10.1023/B:AJCP.0000004742.39858.c5 [PubMed: 14703257]
- Fosdick, RB., Scott, AL. *Toward Liquor Control*. New York: Harper & Brothers; 1933.
- Frank JW, Moore RS, Ames GM. Historical and cultural roots of drinking problems among American Indians. *The American Journal of Public Health*. 2000; 90(3):344–351. [PubMed: 10705850]

- Gallaher MM, Fleming DW, Berger LR. Pedestrian and hypothermia deaths among Native Americans in New Mexico: Between bar and home. *JAMA: Journal of the American Medical Association*. 1992; 267(10):1345–1348. [PubMed: 1740855]
- Gardner, J., Melton, AP. [Accessed 12/20/17] Public Law 280: Issues and Concerns for Victims of Crime in Indian Country. 2003. Retrieved from <http://www.tribal-institute.org/articles/gardner1.htm>
- Glaser BG. The constant comparative method of qualitative analysis. *Social Problems*. 1965; 12(4): 436–445.
- Glaser, BG., Strauss, AL. *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago: Aldine; 1967.
- Gone JP. 'We never was happy living like a Whiteman': Mental health disparities and the postcolonial predicament in American Indian communities. *Am J Community Psychol*. 2007; 40(3-4):290–300. DOI: 10.1007/s10464-007-9136-x [PubMed: 17906926]
- Gone JP. A community-based treatment for Native American historical trauma: Prospects for evidence-based practice. *Journal of Consulting and Clinical Psychology*. 2009; 77(4):751–762. DOI: 10.1037/a0015390 [PubMed: 19634967]
- Gone JP, Looking PEC. American Indian culture as substance abuse treatment: Pursuing evidence for a local intervention. *Journal of Psychoactive Drugs*. 2011; 43(4):291–296. DOI: 10.1080/02791072.2011.628915 [PubMed: 22400459]
- Grant BF, Goldstein RB, Saha TD, Chou SP, Jung J, Zhang H, et al. Huang B. Epidemiology of DSM-5 alcohol use disorder: results from the National Epidemiologic Survey on Alcohol and Related Conditions III. *JAMA psychiatry*. 2015; 72(8):757–766. [PubMed: 26039070]
- Gruenewald PJ. Regulating availability: How access to alcohol affects drinking and problems in youth and adults. *Alcohol Research & Health*. 2011; 34(2):248–256. [PubMed: 22330225]
- Hadland SE, Xuan Z, Blanchette JG, Heeren TC, Swahn MH, Naimi TS. Alcohol policies and alcoholic cirrhosis mortality in the United States. *Preventing Chronic Disease*. 2015; 12:E177.doi: 10.5888/pcd12.150200 [PubMed: 26469950]
- Health Resources and Services Administration. *Defining Rural Population*. 2017. Retrieved from http://www.hrsa.gov/ruralhealth/policy/definition_of_rural.html
- Hernandez-Avila I. Mediations of the spirit: Native American religious traditions and the ethics of representation. *American Indian Quarterly*. 1996; 20(3/4):329–352.
- Holder, HD. *Alcohol and the Community: A Systems Approach to Prevention*. Cambridge: Cambridge University Press; 1998.
- Houkamau CA, Sibley CG. The multi-dimensional model of M ori identity and cultural engagement. *New Zealand Journal of Psychology*. 2010; 39(1):8–28.
- Hussey HH. Indians' tolerance to ethanol. *JAMA: Journal of the American Medical Association*. 1976; 235(15):1596–1597. [PubMed: 946279]
- Jervis LL. Disillusionment, faith, and cultural traumatization on a northern plains reservation. *Traumatology*. 2009; 15(1):11–22. DOI: 10.1177/1534765608321069
- Johnson, H. *Firewater: How Alcohol is Killing My People (and Yours)*. University of Regina Press; 2016.
- Khan BA, Robinson RF, Smith JJ, Dillard DA. Prenatal alcohol exposure among Alaska Native/American Indian infants. *International Journal Of Circumpolar Health*. 2013; :72.doi: 10.3402/ijch.v72i0.20973
- Koss MP, Yuan NP, Dightman D, Prince RJ, Polacca M, Sanderson B, Goldman D. Adverse childhood exposures and alcohol dependence among seven Native American tribes. *American Journal of Preventive Medicine*. 2003; 25(3):238–244. [PubMed: 14507531]
- Kovach, M. *Indigenous Methodologies: Characters, Conversations, and Contexts*. University of Toronto Press; 2012.
- Kovas A, McFarland B, Landen M, Lopez A, May PA. Survey of American Indian alcohol statutes, 1975-2006: Evolving needs and future opportunities for tribal health. *Journal of Studies on Alcohol and Drugs*. 2008; 69(2):183–191. [PubMed: 18299758]

- Landen M, Roeber J, Naimi T, Nielsen L, Sewell M. Alcohol-attributable mortality among American Indians and Alaska Natives in the United States, 1999–2009. *American Journal of Public Health*. 2014; (S3):S343–S349. DOI: 10.2105/AJPH.2013.301648 [PubMed: 24754661]
- Landen MG, Beller M, Funk E, Propst M, Middaugh J, Moolenaar RL. Alcohol-related injury death and alcohol availability in remote Alaska. *JAMA*. 1997; 278(21):1755–1758. [PubMed: 9388152]
- Langton M. Dominion and dishonour: A treaty between our nations? *Postcolonial Studies: Culture, Politics, Economy*. 2001; 4(1):13–26.
- Latour B. From Ontology to Deontology. *General Anthropology*. 2014; 21(1):1–4.
- Law, J. *After Method: Mess in Social Science Research*; Routledge: 2008.
- Law J, Singleton V. Object lessons. *Organization*. 2005; 12(3):331–335.
- Libby AM, Orton HD, Beals J, Buchwald D, Manson SM. Childhood abuse and later parenting outcomes in two American Indian tribes. *Child Abuse & Neglect*. 2008; 32(2):195–211. DOI: 10.1016/j.chiabu.2007.07.006 [PubMed: 18304630]
- Ludwig D. Overlapping ontologies and Indigenous knowledge. From integration to ontological self-determination. *Studies In History And Philosophy Of Science*. 2016; 59:36–45. DOI: 10.1016/j.shpsa.2016.06.002 [PubMed: 27692212]
- Lujan CC. Alcohol and the Future of Native Americans-Reply. *JAMA: Journal of the American Medical Association*. 1993; 269(4):471–472. [PubMed: 8419659]
- MacLennan B, Kypri K, Connor J, Potiki T, Room R. New Zealand's new alcohol laws: protocol for a mixed-methods evaluation. *BMC Public Health*. 2016; 16(1):1–11. [PubMed: 26728978]
- Mancall, PC. “I was addicted to drinking rum”: Four centuries of alcohol consumption in Indian Country. In: Tracy, SW., Acker, CJ., editors. *Altering American Consciousness: The History of Alcohol and Drug Use in the United States, 1800-2000*. Amherst & Boston MA: University of Massachusetts Press; 2004. p. 91-107.
- Manson SM, Beals J, Klein SA, Croy CD. Social epidemiology of trauma among 2 American Indian reservation populations. *American Journal of Public Health*. 2005; 95(5):851–859. DOI: 10.2105/ajph.2004.054171 [PubMed: 15855465]
- Marshall SG. Canadian drug policy and the reproduction of indigenous inequities. *International Indigenous Policy Journal*. 2015; 6(1) Retrieved from: <http://ir.lib.uwo.ca/iipj/vol6/iss1/7>. doi: 10.18584/iipj.2015.6.1.7
- May PA. Arrests, alcohol, and alcohol legalization among an American Indian tribe. *Plains Anthropologist*. 1975; 20(68):129–134.
- May PA. Alcohol beverage control: A survey of tribal alcohol statutes. *American Indian Law Review*. 1977; 5:217–228.
- May PA. Alcohol policy considerations for Indian reservations and bordertown communities. *American Indian And Alaska Native Mental Health Research*. 1992; 4(3):5–59. [PubMed: 1504172]
- Mitchell O. The effect of drug arrest on subsequent drug offending and social bonding. *Journal of Crime & Justice*. 2016; 39(1):174–188. DOI: 10.1080/0735648X.2015.1087145
- Mosher, JF. *Liquor legislation and Native Americans: History and perspective*. University of California at Berkeley. Boalt Hall School of Law; 1975.
- Naimi TS, Blanchette J, Nelson TF, Nguyen T, Oussayef N, Heeren TC, et al. Xuan Z. A new scale of the U.S. alcohol policy environment and its relationship to binge drinking. *American Journal of Preventive Medicine*. 2014; 46(1):10–16. DOI: 10.1016/j.amepre.2013.07.015 [PubMed: 24355666]
- Nally JM, Lockwood S, Taiping H, Knutson K. Post-release recidivism and employment among different types of released offenders: A 5-year follow-up study in the United States. *International Journal of Criminal Justice Sciences*. 2014; 9(1):16–34.
- National Parks Service. Convenience Store Markup Percentages. 2012. Retrieved from http://www.nps.gov/commercialservices/docs/concessioner%20tools/2012_Convenience_Store_Markup_Percentages.pdf
- Nebelkopf E, King J, Wright S, Schweigman K, Lucero E, Habte-Michael T, Cervantes T III. Growing roots: Native American evidence-based practices. *Journal of Psychoactive Drugs*. 2011; 43(4): 263–268. DOI: 10.1080/02791072.2011.628909 [PubMed: 22400455]

- Okrent, D. *Last Call: The Rise and Fall of Prohibition*. New York: Scribner; 2010.
- Paulsen C, Merighi JR. Adoption preparedness, cultural engagement, and parental satisfaction in intercountry adoption. *Adoption Quarterly*. 2009; 12(1):1–18.
- Pollack K, Frattaroli S, Young J, Dana-Sacco G, Gielen A. Motor vehicle deaths among American Indian and Alaska Native populations. *Epidemiological Review*. 2012; 34:73–88. DOI: 10.1093/epirev/mxr019
- Ponicki WR, Henderson J, Gaidus A, Gruenewald PJ, Lee JP, Moore RS, Tilsen N. Spatial epidemiology of alcohol and drug-related health problems among Northern Plains American Indians: Nebraska and South Dakota, 2007–2012. *Alcoholism: Clinical and Experimental Research*. In Press.
- Popovici I, French MT. Does unemployment lead to greater alcohol consumption? *Industrial Relations: A Journal of Economy and Society*. 2013; 52(2):444–466.
- Rifkin SB. *Rapid Rural Appraisal: Its use and value for health planners and managers*. Public Administration. 1996; 74(3):509–526.
- Rorabaugh, WJ. *The Alcoholic Republic, an American Tradition*. New York: Oxford University Press; 1979.
- Smith, LT. *Decolonizing Methodologies: Research and Indigenous Peoples*. Zed Books; 2012.
- Snowshoe A, Crooks CV, Tremblay PF, Craig WM, Hinson RE. Development of a Cultural Connectedness Scale for First Nations youth. *Psychological Assessment*. 2015; 27(1):249–259. DOI: 10.1037/a0037867 [PubMed: 25222432]
- Stewart O. Questions regarding American Indian criminality. *Human Organization*. 1964; 23:61–66.
- Stockwell T, Zhao J, Marzell M, Gruenewald PJ, Macdonald S, Ponicki WR, Martin G. Relationships between minimum alcohol pricing and crime during the partial privatization of a Canadian government alcohol monopoly. *Journal of Studies on Alcohol and Drugs*. 2015; 76(4):628–634. [PubMed: 26098040]
- Szabo EL. Mortality related to alcohol use among the status Indian population of Saskatchewan. *Arctic Medical Research Suppl*. 1991:267–270.
- Treno AJ, Gruenewald PJ, Wood DS, Ponicki WR. The price of alcohol: a consideration of contextual factors. *Alcoholism: Clinical and Experimental Research*. 2006; 30(10):1734–1742.
- Tyrell PM. Utilizing a border as a local economic resource: The example of the Prohibition-era Detroit-Windsor borderland (1920–33). *Comparative American Studies*. 2015; 13(1-2):16–30.
- Unrau, WE. *White Man's Wicked Water: The Alcohol Trade and Prohibition in Indian Country, 1802-1892*. Lawrence: University Press of Kansas; 1996.
- Unrau, WE. *Indians, Alcohol, and the Roads to Taos and Santa Fe*. Lawrence, KS: University Press of Kansas; 2013.
- Wallerstein N, Duran B. Community-Based Participatory Research contributions to intervention research: The intersection of science and practice to improve health equity. *American Journal of Public Health*. 2010; 100(S1):S40–S46. DOI: 10.2105/ajph.2009.184036 [PubMed: 20147663]
- Walter, M., Andersen, C. *Indigenous Statistics: A Quantitative Research Methodology*. Left Coast Press; 2013.
- Walters, K., Beltran, R., Huh, D., Evans-Campbell, T. Dis-placement and Dis-ease: Land, place, and health among American Indians and Alaska Natives. In: Burton, L., editor. *Communities, Neighborhoods, and Health, Social Disparities in Health and Health Care*. Springer; Science +Business Media: 2011.
- Weibel-Orlando J. American Indians and prohibition: Effect or affect? Views from the reservation and the city. *Contemporary Drug Problems*. 1990; 17(2):293–322.
- Wells LE, Falcone DN. Rural crime and policing in American Indian communities *Southern Rural Sociology*. 2008; 23(2):199–225.
- Wendt DC, Gone JP. Urban-indigenous therapeutic landscapes: A case study of an urban American Indian health organization. *Health & Place*. 2012; 18(5):1025–1033. [PubMed: 22763082]
- Western B, Kling JR, Weiman DF. The labor market consequences of incarceration. *Crime & Delinquency*. 2001; 47(3):410–427.

- Wildeman C, Western B. Incarceration in fragile families. *Future of Children*. 2010; 20(2):157–177. [PubMed: 20964136]
- Wood DS, Gruenewald PJ. Local alcohol prohibition, police presence and serious injury in isolated Alaska Native villages. *Addiction*. 2006; 101(3):393–403. [PubMed: 16499512]
- Xuan Z, Blanchette JG, Nelson TF, Nguyen TH, Hadland SE, Oussayef NL, et al. Naimi TS. Youth drinking in the United States: Relationships with alcohol policies and adult drinking. *Pediatrics*. 2015; 136(1):18–27. DOI: 10.1542/peds.2015-0537 [PubMed: 26034246]