

# Drum Assisted Recovery Therapy for Native Americans (DARTNA): Research and Practice Implications for Native Americans with Addictions

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**August 14, 2013**

# Acknowledgements

- National Center for Complementary and Alternative Medicine (NCCAM) for their funding support.
- Cheryl Teruya, Ph.D., DARTNA Project Director
- Kathleen Nagaran, M.S., Research Assistant
- Benjamin Hale, Cultural/drumming teacher
- George Funmaker, Substance abuse provider, cultural/drumming teacher



# Agenda



- The uses and meanings of drumming in American Indian/Alaska Native (AI/AN) cultures
- Substance abuse among AI/ANs and historical trauma
- “Drum-Assisted Recovery Therapy for Native Americans (DARTNA)” research study review
- DARTNA treatment and practice considerations

# Historical Perspective of Drumming



Rock Art (Univ. Arkansas)

# American Indians/Alaska Natives and Drumming

- The drum is a sacred instrument within AI/AN cultures.
- The drumbeat symbolizes heartbeat of Mother Earth, the heartbeat of Indigenous Nations.
- Used in ceremonies, social dances, feasts, in preparation for hunting historically.
- It was and still is used to help heal the sick and as a way of carrying songs and prayers.
- A way of bringing AI/ANs together.



## Drumming and its cultural significance

- Many view their drum as a relative, signified by terms within tribal languages that refer to drums as “grandfather.”
- Drums are used in nearly every aspect of Native culture, from births to funerals.
- Every tribe has their own sets of rules when it comes to how the materials for drums are gathered, who makes the drum, and what types of behavior are allowed near a drum.
- The drumbeat evokes many powerful forms of energy and is an aid in helping to focus one’s attention and to see clear intentions.

# Drumming and Alaska Natives



- The drum, called the *suayaq* or *kilaun*, has a driftwood frame which is steamed and bent into an oval shape, then covered with a stretched walrus stomach, whale liver lining, or scraped caribou hide.
- The oral history of Inupiaq has survived in songs, drumming, and stories passed on from one generation to the next.
- The Inupiaq Shaman's use of the drum in ceremonies and to communicate with spirits disturbed missionaries and was subsequently “forbidden.”

**"The drum connected me with something I hadn't known before, and I felt a huge lump in my throat that was equal parts sorrow, gratitude and joy. When I was coaxed out for my first inter-tribal dance, I closed my eyes and felt the drum and began to move my feet. It was magic. I could dance. It would be a few years before I was graced with the drum teachings of my people, but there was a spiritual connection nonetheless. Once I felt the drum in my chest, the hollowness I'd carried as a displaced Indian kid was gone. In its place was belonging."**

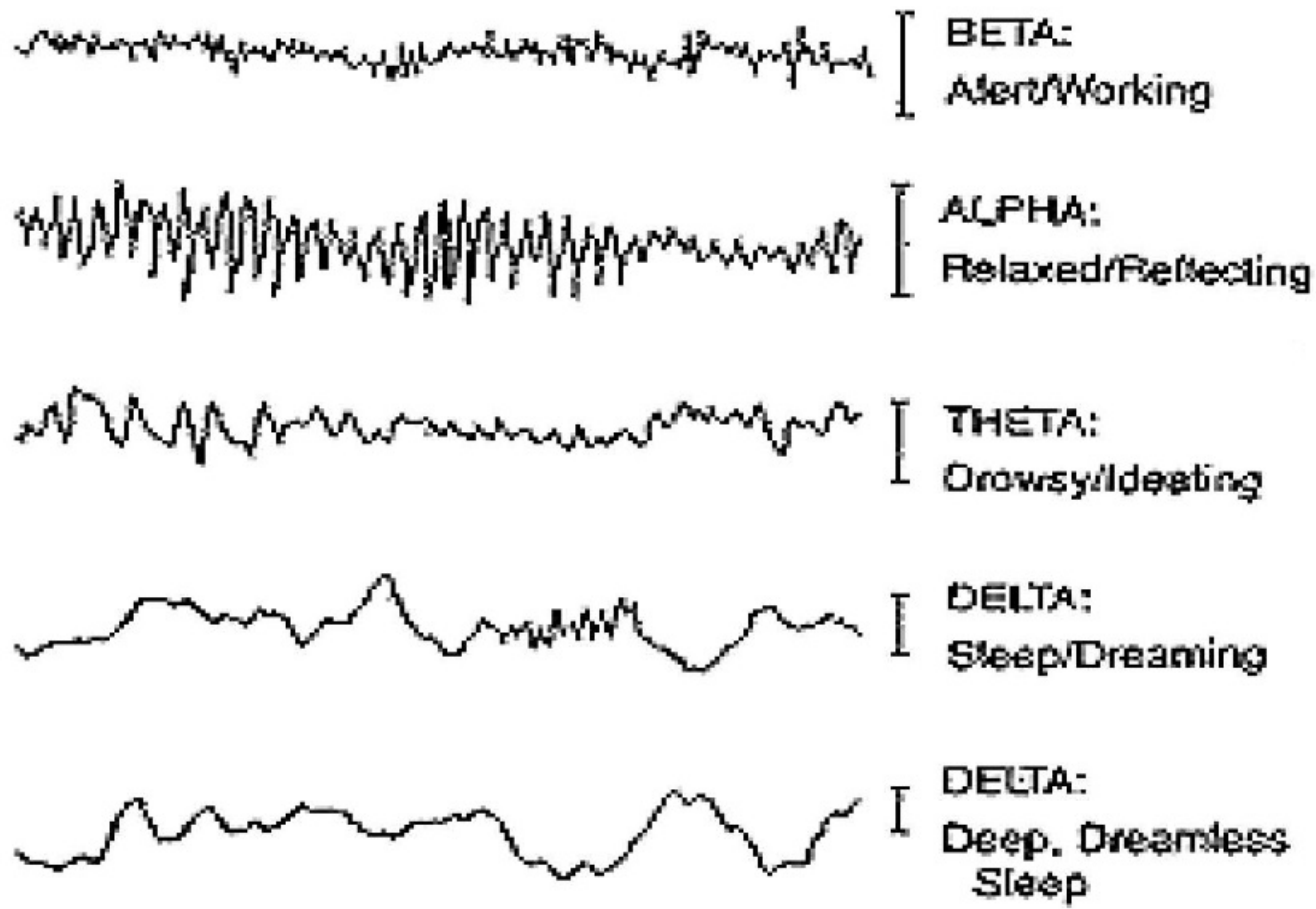
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# Therapeutic effects of drumming

- Several studies have demonstrated physical and psychological effects associated with drumming (Winkelman, 2003).
- Drumming may also have biological effects that may mitigate various behaviors.
- Rhythmic auditory stimuli (including drumming, singing, and chanting) may generate auditory drive leading to increased alpha and theta wave production, which may contribute to a desired meditative state (Wright, 1991; Maxfield, 1991; Winkelman, 2000; Mandell, 1980).
- This response is produced by activation of the limbic brain's serotonergic circuits to the lower brain. These slow-wave discharges produce strongly coherent brain-wave patterns that synchronize the frontal areas of the brain with ascending discharges, integrating nonverbal information from lower brain structures into the frontal cortex and producing insight.

# Electroencephalography (*EEG*): Brain Wave Activity



# American Indians/Alaska Natives (AI/ANs) and Drug/Alcohol Abuse

- Rates of past month binge alcohol use and illicit drug use for adults were higher among AI/ANs than the U.S. national averages (30.6 vs. 24.5 percent and 11.2 vs. 7.9 percent, respectively) although the rate of past month alcohol use for adults was lower among AI/AN than the national average (43.9 vs. 55.2 percent) (SAMHSA, 2010).
- Based on combined data from 2003 to 2011, AI/ANs were more likely than individuals from other racial/ethnic groups to have needed substance abuse treatment in the past year (SAMHSA, 2012).

# American Indians/Alaska Natives and Mental Health Problems

- AI/ANs experience high rates of traumatic exposure, abuse, domestic violence, depression, posttraumatic stress disorder.
- AI/ANs have the highest rates of suicide compared to any other ethnic/racial group in the U.S.
- Comorbidity of mental health issues and substance abuse among AI/ANs common.
- New culturally-relevant treatment strategies to decreasing the burden of traumatic exposure and mental health problems are in critical need.

# Historical Trauma and AI/AN Cultural Identity



- Many U.S. historical actions, i.e., removals and relocation acts, have resulted in a fragmented AI/AN community
- Many AI/ANs may have “lost” some of their cultural identity.
- Lost of cultural identity may contribute to increased drug and alcohol use.
- Conversely, strong cultural identification may help youth and adults to be less likely to use drugs/alcohol.
- AI adolescents who identify with Indian culture may be less likely to be involved in alcohol use than those who lack this sense of identity.

# AI/AN and cultural identity

- Many American Indians strongly believe that their problems with alcohol stem from their sudden disconnection with traditional American Indian culture
- American Indian traditions, customs, rituals, and values may assist in discovering positive coping strategies during recovery.
- Denying AI/ANs the opportunity to rely on those strategies may contribute to ongoing drug/alcohol use.



# Incorporation of traditional healing services

- Incorporating traditional aspects of healing has been recognized as being important in substance abuse recovery for AI/AN.
- Participating in traditional activities may enhance and renew AI/AN sense of personal and cultural identity.
- Studies have shown a renewed pride in AI/AN cultural heritage, feeling motivated to learn more about their cultural heritage, and coming to feel “worthy” of participating cultural events among AI/ANs in recovery.
- Opportunity to learn about healthier cultural ideals, views, and traditions which may aid in recovery.



## Questions relating to drumming and AI/ANs

- Can the use of the drum be used in a culturally-appropriate manner for substance abuse tx?
- How important culturally is it to accompany singing with drumming?
- Roles of AI/AN females in drumming?
- Approaching diversity of AI/AN drumming traditions (562 federally-recognized tribes)

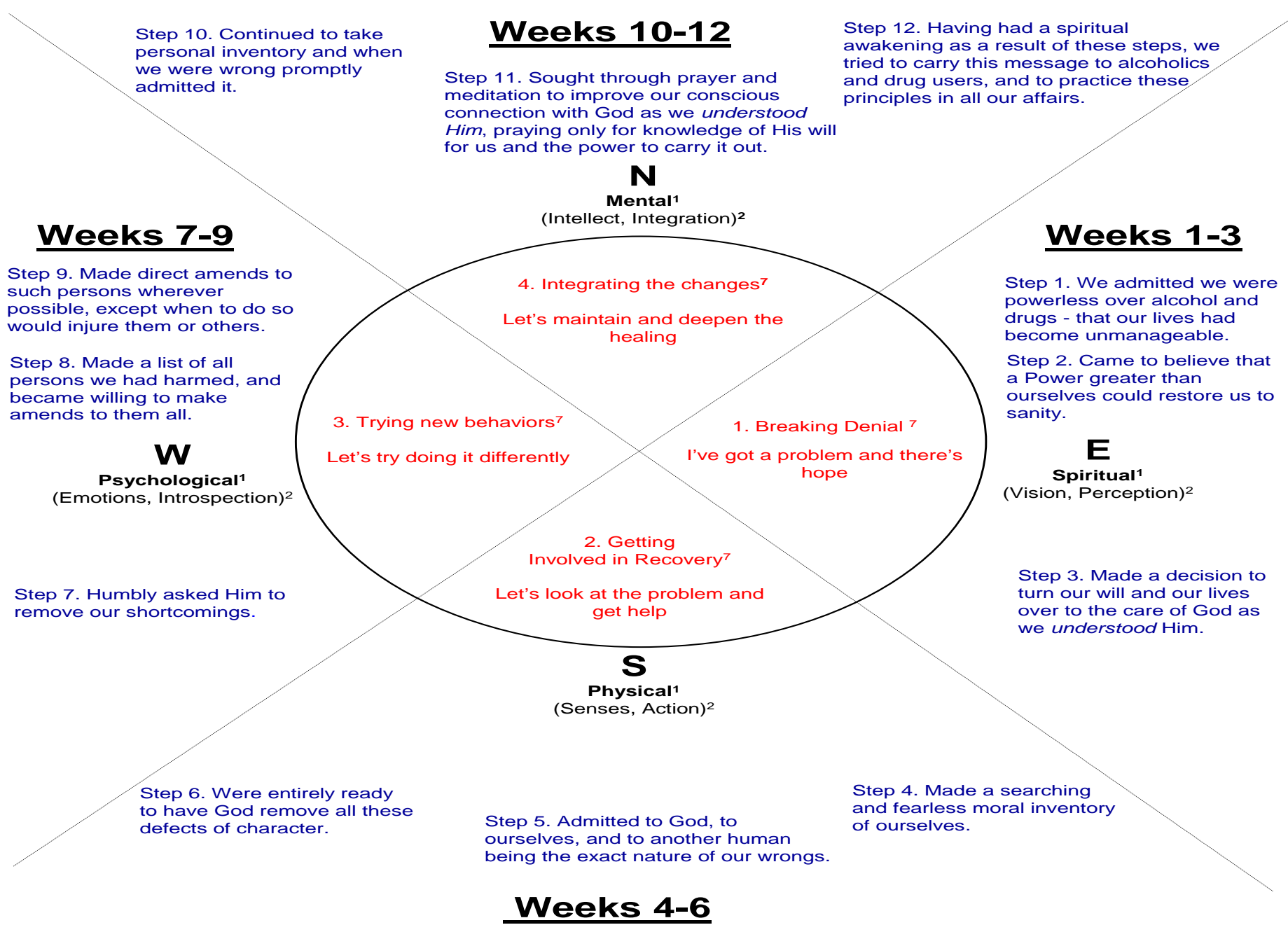
# Drum-Assisted Recovery Therapy for Native Americans (DARTNA)

- Daniel Dickerson, D.O., M.P.H. and Anthony Robichaud initially designed a substance abuse treatment intervention utilizing drumming for AI/ANs with substance abuse disorders.
- R-21 NIH/NCCAM grant awarded Sept 2010 to complete the development and pilot-test a new drum therapy treatment program for AI/ANs with substance use disorders.

# DARTNA Treatment Intervention

- Initially proposed to be 3 days/wk x 12/wks  
(changed to 2 days/wk as recommended through focus groups)
- Each day consists of a 3-hour treatment format.
- Each wk focusing sequentially on the 12-steps of AA/NA and concepts of the Northern Plains Medicine Wheel

# Figure 2. DARTNA Medicine Wheel



# Daily treatment structure

## Monday and Friday

(Assuming 2-5pm scheduled time)

- **2pm-2:50pm:** Education/Cultural Discussion: drumming, teaching of songs, Native American Medicine Wheel, 12-steps, White Bison concepts
- **3pm-4:20pm:** Drumming
- **4:30-5pm:** Talking Circle

\*First session involves making your own drum.

\*DARTNA is provided by a substance abuse provider and cultural/drumming teacher

## Primary Grant Activities

- Series of focus groups (treatment providers, patients, CAB) to discuss initial treatment format
- Pretest of DARTNA among 10 AI/ANs
- Follow-up focus group to finalize DARTNA intervention
- Manual Development.

# Initial Focus Groups

- Focus groups conducted among
  - 1) AI/AN substance abuse providers (n=9), 2) AI/ANs with substance abuse hx. (n=9)
  - 3) Community Advisory Board (n=4)
- Purpose to obtain feedback with regard to the preliminary DARTNA treatment intervention
- Feedback received to be used for a follow-up pretest of DARTNA

# DARTNA focus group overarching conceptual themes

- (1) drumming can be especially beneficial for AI/ANs with substance abuse issues
- (2) assuring a culturally-based focus is necessary as it relates to drumming for AI/ANs with substance abuse issues
- (3) providing a treatment format which will provide a foundation of cultural ideals which cross the landscape of diverse tribes while recognizing tribal diversity is necessary
- (4) addressing gender roles as it relates to drumming activities must be addressed within the treatment setting.



# Focus group: Community Advisory Board (CAB) member quote

*“You want to teach definitely the significance of drumming and Native people feel the drumming is sacred. It’s the heartbeat of the earth and mother earth. The target is also educating and hands on experience and to have your own creativity to you making the drum and on top of that teaching how to create the drum.”*

## CAB quote

*“I think there are a lot of native people who haven’t even been to very many traditional ceremonies of their culture. So it’s really important to keep that going. I know the main thing has to do with sobriety and recovery but again it goes hand in hand. And this is the most excellent way to facilitate that and to reintroduce the blending of these things. Because it works.”*

# CAB and cultural identity

*“So we know there is a relationship with someone’s cultural identity and their substance use or other behavior problems. So there is already that relationship. So by being more connected to the culture is really going to help them whether they’ve drummed before or whether they’ve ever had any knowledge about their tribal culture. I think it’s their first step that will really help.”*

# Substance abuse provider quote

*“People understand that it (education) has to be covered before they start making those drums and singing. If there’s no foundation, there’s no building. Whoever facilitates your groups has to understand when they’re teaching these songs to a group, that all those people understand the song they are teaching it and not take their own interpretation into it.”*

## Substance abuse patient quote:

*“The urban Indians are really Natives not learned in their cultures and where they are. This is important to know for their part of the nation. Urban Indians need teachings also as well as the people from the reservation. The people from the reservations are no different than urban Indians because on the reservation, we abused all the other drugs and that’s what strays us away from our culture.”*

## After treatment quote (CAB)

*“The tools that they use in treatment should be implemented in their lives. It’s up to them to continue to go to Pow Wows or to sweat...to cultivate it in their lives and for drumming to be a part of their lives. It will be the responsibility of the service providers to create opportunities for the clients after their participation in treatment.”*

# Pretest of DARTNA

- 10 AI/ANs with current substance use disorders (5 males, 5 females) were provided the preliminary treatment protocol.
- Follow-up focus groups among participants, providers and CAB were conducted to aid in the development of the final treatment protocol.

# DARTNA pretest participants

- The age range was 19-67 years of age.
- Six participants were male and 5 were female.
- Education level ranged from 10<sup>th</sup> grade to Masters Degree.
- Nine participants reported alcohol as being their drug of choice and 2 participants reported marijuana as their drug of choice. With regard to marital status, six were divorced, four were single, and one was married.
- With regard to employment, seven were employed (either full time or part time), three were unemployed, and one was on disability.



# Assessments for Pretest

- *American Indian/Alaska Native Cultural Identity Scale*
- *Functional Assessment of Chronic Illness Therapy (FACIT)-  
Spiritual Questions Only-Expanded*
- *Functional Assessment of Chronic Illness Therapy (FACIT)-  
Fatigue*
- *Functional Assessment of Cancer Therapy-Cognitive Function  
(FACT-C)*
- *The General Alcoholics Anonymous Tools of Recovery  
(GAATOR 2.1)*
- *The Brief Symptom Inventory*
- *The Addiction Severity Index (ASI)*

Assessment	Baseline Score (n=8, 5)	6-week Score (n=8)	12-week Score (n=5)
ASI-alcohol use	0.18, 0.18	0.07	0.14
ASI-DRUG USE	0.06, 0.04	0.01	0.02
ASI-legal	0.12, 0.17	0.12	0.04
ASI-psychological	0.26, 0.30	0.10*	0.09
ASI-medical status	0.36, 0.46	0.18	0.14*
FACIT-Spiritual Questions Only-Expanded	68.2/92	76.8/92	81.2/92
-subscale “Meaning/Peace”	21.6	26.4	27.6**
-subscale “Spiritual Subscale”	68.1	77.2	81.8*
FACT-Cognitive	89.4/132	94.4/132	<b>94/132</b>
-subscale “TOI”	88.2	96.8	100.8*
-subscale “Fatigue”	42.4	47.6	49.8

# Preliminary DARTNA Pretest Findings

- Promising results\* suggest benefits of drumming in the following areas:
  - ASI medical composite score
  - ASI psychological composite score
  - Physical/functioning/fatigue levels
  - Spirituality

\*These areas demonstrated statistically significant improvements, which was surprising due to the small sample size.

# Feedback from participants after participating in DARTNA

- “I’m grateful it’s my time to reconnect with the cultural, traditional way of life to find out who I really am and where I come from.”
- “With constant distraction in my path, drumming is a way to look up from stress, take care of things, get them out of the way.”

## Participant feedback continued:

- “I feel serenity, peace...”
- “It’s uplifting and the drum itself is spiritual. I never thought of doing drugs or drinking.” “(I) start to feel spiritual connection. This is where I need to be, where I should be. I feel at home...”

# Practice Considerations

- DARTNA is an example of a culturally-relevant substance abuse treatment for AI/ANs.
- The demand for traditional based substance abuse treatments is high among AI/ANs.
- Traditional based treatments may help with maximizing substance abuse treatment engagement and retention.
- To date, reimbursement mechanisms for drumming and traditional-based treatments are limited due to the limited amount of research conducted demonstrating effectiveness.

# Practice Considerations

- Using drumming for AI/ANs within the clinical setting is possible.
- First, “buy-in” from clinic administrators and providers needs to exist. “It starts with the top.”
- Communication with county administrators and other billing sources needs to occur to discuss doable funding avenues and strategies.
- Can use drumming and drum-making for alcohol/drug use prevention.

# Conclusions

- Drumming may be effective for AI/ANs with substance use disorders.
- Further research analyzing DARTNA is needed among a larger sample with comparison groups.
- Recognition and adherence to cultural traditions is necessary when using drumming as a treatment option for AI/ANs.
- Further research of DARTNA will help towards creating an evidenced-based treatment utilizing drumming for AI/ANs.



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