Intervention Research to Improve Native American Health

Thanks, everyone, for sending along your project updates. A lot of innovative research is being conducted at your organizations, in schools, in tribal communities, and online! We hope this review of project highlights will generate more discussions, encourage new collaborations, and serve as a springboard for more ideas, more proposals, and more funded research that will benefit the Native American community.

- Liz and Dan, co-editors

Residential Wood Smoke Interventions Improving Health in Native American Populations

Annie Belcourt, PhD, University of Montana (Co-PI)
Curtis Noonan, PhD, University of Montana (Co-PI)
Tony Ward, PhD, University of Montana (Co-PI)

Period of performance: Jun 2014 - Feb 2019
Funding agency: National Institute of Environmental Health Sciences

AIM 1  Facilitate the tribally-centered development, adaption, implementation, and evaluation of community-level wood yard and distribution programs for participating tribal households.

Burning of appropriate, dry fuel is dependent upon both firewood supply (i.e., the target of our community-level intervention) and storage practices (i.e., one of the components of our household-level education intervention). Working with our tribal partners, wood yards will be established at pre-identified locations on two Native American reservations.

Aim 1 status: 50% completed.

AIM 2  Facilitate the development, adaption, implementation, and evaluation of household-level education strategies targeting best-burn practices for participating tribal households.

The best-burn practices education curriculum will serve as one of the household-level intervention arms in our randomized trial project design.

Short videos will be created that highlight best-burn practices, while provision of, and training in the use of, wood moisture meters and stove thermometers will be included as part of the education interventions.

Aim 2 status: 50% completed. Interventions and videos have been developed and implemented in some communities. Evaluation is in progress.

Aim 2 Presentations


Belcourt, A. (2014, August). Translational science advancing indoor air quality interventions with American Indian populations: Community capacity building towards public health intervention. Invited presentation at the Skaggs Biomedical Research Symposium hosted by the University of Montana’s Skaggs School of Pharmacy, Missoula, MT.


(Continued on page 2)
Residential Wood Smoke Interventions Improving Health in Native American Populations

(Continued from page 1)

Belcourt, A. (2014). Digital storytelling: Translational techniques to improve public health science impact within American Indian communities. Invited lecture at the Salish and Kootenai College for the RISE programs funded by the National Institutes of Health, Pablo, MT.

Belcourt, A. (2015, December). Indoor air quality interventions with American Indian communities: Creating culturally adapted intervention methods and educational tools. Invited presentation at the Value of Tribal Ecological Knowledge (TEK) for the Environmental Health Sciences and Biomedical Research Workshop, National Institutes of Health, Bethesda, MD.


Belcourt, A., Moore, S., & Donatutu, J. (2015). Community engagement project to engaged Swinomish tribal community in rapid response to environmental health concerns. Presentation for tribal resolution to the Swinomish Indian Tribal Community Housing, Education, and Social Services Senate Committee, LaConner, WA.

Ward, T.J. (2015). Environmental health research projects in rural and Native communities. Social Science Research Seminar, University of Montana, Missoula, MT.

Ward, T.J. (2015, April). Environmental health research projects in rural and Native communities. Presentation at the MT INBRE Network Research and Training Symposium, Research Opportunities in the Montana INBRE Network, Bozeman, MT.

Ward, T.J. (2015, October). Environmental health research projects in rural and Native communities. Presentation at the Montana Public Health Association Annual Conference, Bozeman, MT.

Ward, T.J. (2015, December). Residential wood stove studies: From the field to the laboratory. Presentation to the Missoula County Air Quality Advisory Council, Missoula, MT.

**AIM 3** Compare efficacy, both within and between communities, of household-level interventions among elderly adults participating in a three-arm randomized placebo-controlled trial.

Aim 3a. Compare group changes in pulmonary function and respiratory symptoms and infections.

Aim 3b. Compare group changes in indoor and personal PM2.5 exposures.

In addition to the community-level wood supply program to be implemented at project sites, we will test a three-arm randomized placebo-controlled pre-/post-intervention trial at the household-level. Randomized controlled trials are the most robust design for evaluating the efficacy of a treatment. We will have two treatment arms which will allow us to independently assess two strategies for reducing in-home wood smoke-derived PM2.5. In addition, a placebo group will help protect against changes that could be due to contact attention or treatment intensity.

The intervention trial is targeted at elderly populations living in homes that utilize a wood stove as their primary source of heating. Homes will be followed over two, four-month winter periods (November through February) with the intervention occurring at the beginning of the second winter period. As exposure to biomass smoke has been identified as a risk factor for adverse respiratory health outcomes, pulmonary function and respiratory symptoms and infections among adult/elderly residents of participating homes are the primary outcomes for this study. Indoor/personal PM2.5 exposures will also be assessed during each winter to evaluate the efficacy of the interventions.

**Aim 3 status:** 15% completed. Data analysis in process.

**AIM 4** Evaluate penetration, acceptance, and sustainability of community-level (wood yard) and household-level (randomized intervention trial) strategies using both qualitative and quantitative data generated in collaboration with tribal Community Advisory Boards and research participants.

The success of the community-level and household-level interventions will be evaluated over time following in the later years of the grant.

**Aim 4 status:** In progress. Evaluating the challenges and successes as the project advances.
A Primary Prevention Trial to Strengthen Child Attachment in a Native Community (Miwé Project)

Cathryn Booth-LaForce, PhD, University of Washington (PI)
Dedra Buchwald, MD, Washington State University (PI)
Monica Oxford, PhD, University of Washington (PI)

Period of performance: Sep 2013 - Jun 2018
Funding agency: National Institute of Nursing Research

AIM 1 Adapt the Promoting First Relationships (PFR) intervention using focus groups.

The PFR strengths-based home-visit intervention program for caregivers and their toddlers (Kelly et al., 2008) is an evidence-based program that had been tested and implemented primarily in the child welfare system. This is the first randomized controlled trial of PFR in a Native community. In order to adapt PFR to be culturally appropriate and to listen to the needs of the community, we held two focus groups with Elders, parents, and those working with parents and children. Based on these groups and on input from our reservation-based Native staff, we adapted aspects of PFR training, delivery, and content.

Aim 1 status: Completed.
Aim 1 publications: In progress.

Aim 1 Presentations


AIM 2 Assess the adequacy of training by examining the pre- and post-training attitudes and consultation strategies used by community-based PFR providers with caregivers and infants.

We hypothesized that PFR providers would exhibit substantial post-training improvements in using PFR strategies and in their attitudes about childrearing.

We trained two reservation-based staff to deliver the PFR program over a 6-month period. Training included the specifics of the program, as well as more general training in home visiting, child development, and parenting. The trainees provided the PFR program to pilot families, with extensive guidance, until fidelity was achieved (and is checked and maintained throughout the project).

The global score for use of PFR strategies went from barely acceptable to achievement of fidelity. Additionally, the PFR providers showed gains in the use of specific PFR verbal strategies over the course of training, as well as a decline in non-PFR strategies. Scores on attitudes about childrearing were high at the beginning of training, and did not increase substantially.

Aim 2 status: Completed.

AIM 3 Compare the PFR and control group on caregivers’ sensitivity and responsiveness and children’s social and emotional competencies and attachment security.

We hypothesize that the PFR group will exhibit significantly more positive gains than the control group both immediately after the intervention and 6 months later, and that improved caregiver outcomes will mediate improved child outcomes.

Aim 3 status: Recruitment is ongoing. Following an initial research visit, cases are being randomized to PFR or a Resource and Referral control condition. The interventions are being provided, and post-treatment research visits are occurring.

Miwé [me-weh] - My Blood, my children, my grandchildren, my nieces and nephews or any of my relatives, and the care, love, responsibility, and commitment we have for each other.
Web-based Smoking Cessation Program for Tribal College Students

Won S. Choi, PhD, University of Kansas Medical Center (PI)

Period of performance: Apr 2013 - Mar 2018
Funding agency: National Cancer Institute

AIM 1 To test the effectiveness of a culturally-tailored Internet-based smoking cessation intervention, Internet-All Nations Breath of Life (I-ANBL), compared to an Internet-based heart-healthy diet Internet-Fruit/Vegetable (I-FV) control condition in a randomized controlled trial with tribal college students.

Our hypothesis is that American Indian tribal college students randomized to the culturally-tailored “All Nations Breath of Life” arm will have significantly higher 7-day point prevalence abstinence rates at 6 months than those receiving the comparison intervention.

Aim 1 status: Study is currently ongoing so we have no results to report yet.

AIM 2 To test the effects of Internet-All Nations Breath of Life on intermediate smoking variables including number of cigarettes smoked and number of quit attempts at 6 months following randomization.

AIM 3 To compare differences between I-ANBL and I-FV in adherence rates to program participation at 6 months following randomization.

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MICUNAY
Motivational Interviewing and Culture for Urban Native American Youth

Artist: Robert Young

AIM 1 Use focus groups and brief surveys with urban AI/AN communities to design a culturally sensitive intervention program for AI/AN youth that integrates evidence-based practices and traditional activities (activities delivered via community wellness gatherings [CWGs]) in which we (a) build on our previous work with AI/AN youth and at-risk adolescents, (b) incorporate youth and adult community input, and (c) establish feasibility and sustainability of delivery.

This formative work used qualitative and quantitative methods to assess cultural diversity (e.g., differences by tribe or gender in traditional activity preference or beliefs) among AI/AN youth. This helped design the intervention for the widest possible client base of AI/AN youth.

Aim 1 status: Completed.

Aim 1 Presentations


Annual Scientific Meeting, New Orleans, LA.

**Aim 1 Publications**


**Aim 2**

Compare AI/AN youth who only receive the CWG (n=100) to AI/AN youth who receive the CWG plus our integrated group intervention, MUCUNAY (n=100) across communities in both northern and southern California.

We plan to compare outcomes at 3- and 6-month follow-up to determine (a) whether clinically significant changes in alcohol and other drug (AOD) expectancies, perceived prevalence of peer AOD use, alcohol consumption, marijuana and other drug use, and related consequences occur; (b) whether clinically significant changes in physical, social, emotional, and functional well-being, as well as spirituality and cultural identification occur, and (c) if reductions occur, estimate effect sizes for the CWG group and the CWG plus MUCUNAY group.

Aim 2 status: In progress.

One-hundred twenty-two youth have completed the baseline survey; 92 youth have received the program; 71 youth have completed the 3-month follow-up survey; and 59 youth have completed the 6-month follow-up survey.

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**Tribal Colleges and Universities Behavior Wellness Study (TCU-BeWell)**

**Working Titles:** “TCU-BASICS” and “Creating Campus Change”

**PIs:** Bonnie Duran (mixed race Opelousas / Coushatta), DrPH, Center for Indigenous Health Research (CIHR), University of Washington School of Social Work

Myra Parker (Mandan / Hidatsa / Cree), JD-PhD, Center for the Study of Health and Risk Behavior (CCHRHB), Department of Psychiatry and Behavioral Sciences, University of Washington School of Medicine

Community PI: Billie Jo Kipp (Blackfeet), PhD, Blackfeet Community College; American Indian Higher Education Consortium

Co-Investigators: Maya Magarati (Indigenous Magar from Nepal), PhD, Center for Indigenous Health Research, University of Washington School of Social Work

Mary Larimer, PhD, Center for the Study of Health and Risk Behavior, Department of Psychiatry and Behavioral Sciences, University of Washington School of Medicine

Dennis Donovan, PhD, Alcohol and Drug Abuse Institute, Department of Psychiatry and Behavioral Sciences, University of Washington School of Medicine

Period of performance: Jul 2013 - Jun 2018

Funding agency: National Institute on Alcohol Abuse and Alcoholism

**AIM 1**

To adapt, manualize, and implement a culturally and geographically contextualized version of the “Brief Alcohol Screening and Intervention for College Students” (BASICS):

a. To test whether a culturally contextualized BASICS intervention will surpass a wait-list control condition by significantly reducing indices of hazardous or harmful drinking and alcohol-related negative consequences.

b. To test the effect of the intervention in significantly improving retention and academic performance among TCU students.

Aim 1 status: In progress.
Aim 1 Presentations


Aim 1 Publications


Aim 2 Presentations


Aim 2 To implement a system-level policy intervention moving from zero-tolerance to harm reduction policies at the college level and providing capacity to integrate Indian Health Service, Tribal, and Contract Care services for improved referral and treatment for high-risk TCU students:

a. To test whether the system-level policy intervention will positively affect the SBI intervention and its outcomes.

b. To examine contextual mediators and moderators of intervention efficacy at the college level.

Aim 2 status: Poster intervention launched at three TCUs in May 2016.

Engaging Tribal Policy Makers to Sustain Improvements to the Food and Physical Activity Environment in American Indian Communities (OPREVENT2)

Aim 1 To conduct formative research to describe tribal policy development and enactment in participating American Indian (AI) communities, in order to support tribal health policy makers to identify effective policies to sustain obesity and chronic disease prevention/reduction programs, by building capacity and collaborative partnerships.

Aim 1 status: In progress. Our study staff have been on location in New Mexico and Michigan pilot communities, and have completed 39 in-depth interviews, two talking circles, and one social mapping activity.

Aim 2 To develop and implement the multi-level OPREVENT2 trial in three AI intervention communities (round 1), and later in three AI comparison communities (round 2).

Aim 2 status: In progress. We are currently obtaining JHSPH (conditional approval received), Navajo Nation Human Research Review Board Conference (NNHRRB) (application submitted), and IHS (application in preparation) Internal Review Board approval process. We have scheduled interventionist and data collector trainings for this summer 2016 as well as community workshops (Continued on page 7)
to be completed prior to our baseline data collection start date of August 2016. These workshops are intended as a means of getting community input for materials revisions, and building ownership. Additionally, we have a school curriculum teacher training scheduled for this fall 2016, and several working groups are focused on intervention and materials development and modification to be completed prior to our anticipated intervention start date of April 2017. We have set up social media accounts in Twitter, Instagram, and Facebook to build support and interest in the study, and in its potential outcomes.

**Aim 3**  To assess through a community-based randomized controlled trial the impact of the OPREVENT2 program and associated policies on adiposity (e.g., body mass index (BMI), waist-to-hip ratios and percent body fat), psychosocial factors and obesity risk behaviors, including dietary quality (e.g., fruit and vegetable servings), nutrient intake (e.g., total energy, fat intake), and physical activity (PA) (e.g., total PA, percent of time spent in sedentary activity).

Aim 3 status: To be completed.

We will be able to assess the impact of the OPREVENT2 program upon completion of follow-up data collection, which is set to begin in July of 2018.

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**The KaHOLE Project: Preventing Cardiovascular Disease in Native Hawaiians**

**Aim 1**  Compare the efficacy of a 6-month intervention using hula plus self-care education to a wait-list control group in reducing systolic blood pressure (SBP) among Native Hawaiians (NH) with physician-diagnosed hypertension (HTN). We predict that individuals in the intervention arm will have greater reductions in their SBP post-intervention compared with persons randomized to wait-list control, and will maintain these improvements at 12-month follow-up.

We are testing the efficacy of a 6-month intervention using hula (the traditional dance of Native Hawaiians) plus self-care education in reducing SBP and CVD risk. The intervention is named, Ola Hou i ka Hula (Restoring health through hula). We are recruiting 250 adult Native Hawaiians with confirmed HTN and doing a 1:1 randomization within each participating community-based organization so that 125 are assigned to the Ola Hou and 125 are assigned to wait-list control. Ola Hou is delivered by experienced kumu hula (hula educators/experts) and trained.

**Aim 2**  Compare Cardiovascular Disease (CVD) risk scores in the hula plus self-care education and wait-list control conditions post-intervention and at 12-month follow-up. We predict that Native Hawaiians randomized to the intervention will show greater improvements post-intervention in their 10-year CVD risk profile than those randomized to a wait-list control, and that they will maintain these improvements at 12-month follow-up.

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PI: Joseph Keawe‘aimoku Kaholokula, PhD, Department of Native Hawaiian Health in the John A. Burns School of Medicine at the University of Hawai‘i at Mānoa. Ethnic/cultural affiliation: Kānaka Maoli (Native Hawaiian)

Investigators:
- Mele Look, MBA, University of Hawai‘i at Mānoa
- Thomas Wills, PhD, University of Hawai‘i at Mānoa
- Todd Seto, MD, University of Hawai‘i at Mānoa
- Ka‘imi Sinclair, MPH, PhD, Washington State University

Community Investigators:
- Mapuana de Silva, Hālau Mōhala ‘Ilima (Kumu Hula)
- Adrienne Dillard, MSW, Kula no Na Po‘e Hawai‘i
- Donna Palakiko, APRN, MS, Ke Ola Mamo
- Joseph Gonsalves, Hui no ke Ola Pono
- Aukahi Austin, PhD, I Ola Lāhui: Hawai‘i Rural Behavioral Health Program

Period of performance: Apr 2015 - Jan 2020

Funding agency: National Heart, Lung, and Blood Institute
community peer educators to groups of 15 in community settings following protocols previously established. Our primary outcomes are a reduction of SBP by 7.5 mmHg and improvements in CVD risk based on the Framingham Risk Scores (FRS).

Aim 1 and 2 status: In progress. Seventy-six Native Hawaiians across 3 CBO sites have been recruited, assessed at baseline, and randomized to either Ola Hou (n=38) or to wait-list control (n=34).

Aim 1 & 2 Presentations


Aim 1 & 2 Publications

AIM 3 Test whether intervention effects are mediated through psychosocial and cultural factors. Structural equation modeling analyses will test whether the effect of the intervention on blood pressure is mediated through better self-control, reduced smoking, stronger identification with Native Hawaiian culture, and decreases in perceived racism and stress. We predict that changes in these constructs will partially mediate the effect of the intervention on blood pressure reduction and CVD risk score, though a direct effect is also possible.

Aim 3 status: In progress. Preliminary analysis to address Aim 3 will begin in Year 3. ☝️

Substance Use Prevention Campaign for American Indian Youth

Kathleen J. Kelly, PhD, Colorado State University (PI)
Linda R. Stanley, PhD, Colorado State University (PI)
Randall C. Swaim, PhD, Colorado State University (PI)

Period of performance: Apr 2014 - Feb 2019
Funding agency: National Institute on Drug Abuse

AIM 1 Be Under Your Own Influence (BUYOI), a peer-led communications campaign, has been found to be effective in preventing substance use among youth attending multi-ethnic schools but has not been adapted and tested with American Indian (AI) youth.

BUYOI intervention reframes substance use as a behavior that impairs personal autonomy and aspirations for the future, using local high school role models to deliver the campaign messages.

Aim 1 status: Completed. Six focus groups were conducted with 7th grade youth, and 12 high school students participated in a photovoice project. Two community advisory group retreats were held in each community. Results were analyzed, and intervention themes, messages, and delivery mechanisms were adapted based on these results. Two posters are shown on the following page as visual examples—one produced for all intervention communities (History Makers) and one produced for an intervention community using local high school role models.

Aim 1 Presentations

AIM 2 Train high school youth from intervention communities to
serve as agents of communication and role models in the campaign implementation.

We used lessons from this institute and from our experience in the first year implementation of the campaign to guide how training and information will be delivered to cohort 2 role models.

Aim 2 status: Completed for year 1 of the intervention. Thirteen American Indian 11th graders from 3 communities were brought to Colorado State University during June 2015 where they learned about the campaign and received training in the skills needed for successful implementation.

AIM 3
Implement the substance use prevention campaign in targeted intervention communities, while monitoring the fidelity of the campaign.

Aim 3 status: Year 1 intervention is in progress in all 3 intervention communities. We have developed a tracking instrument for the intervention communities to monitor fidelity.

AIMS 4-6 Collect longitudinal survey data (4 measurement occasions – 1 pre-test and 3 post-test) from 7th graders enrolled in control and treatment schools for 2 cohorts of 7th grade students.

Using Bayesian analysis, estimate longitudinal multilevel models that measure the effect of the intervention on secondary outcomes (substance-specific outcome expectations related to aspirations and autonomy, and perceived harm) and on primary outcomes (intentions to use substances, substance use).

Aims 4-6 status: In progress. Parental consent was obtained for 224 7th graders (cohort 1). These students have been surveyed for measurement occasion #1 using an online survey.

AIM 7
Produce a culturally appropriate turnkey campaign package that can be disseminated to AI communities for implementation with post-grant funding.

Aim 7 status: In progress.

Intertribal Talking Circle for the Prevention of Substance Abuse in Native Youth

Aim 1 status: Community partnership committees have been developed among the three tribal sites participating in the project (Choctaw Nation of OK, Ojibwe of MN, and Lumbee Tribe of NC). A community-needs assessment was conducted in each of the three sites, which helped to narrow the focus on the major substances being abused. Community leaders, stakeholders, and key informants were interviewed individually to discuss concerns and insights regarding substance abuse issues. This information has been used to contextually inform the intervention sessions. Available information from the literature and other sources such as media, newspapers, and published literature that have addressed or recorded substance abuse-related issues relevant to each of the three tribal sites.

John Lowe, RN, PhD, FAAN (Cherokee/Creek/Lenape), Florida Atlantic University (PI)
Julie Baldwin, PhD (Cherokee), Health Sciences; Health Equity Research Group, Northern Arizona University (PI)

Period of performance: Apr 2014 - Feb 2019
Funding agencies: National Institute on Alcohol Abuse and Alcoholism, National Institute on Drug Abuse
Aim 1 Presentations


To develop the Intertribal Talking Circle (ITC) by partnering with three tribal communities to culturally and technologically adapt and tailor an existing Talking Circle intervention that was implemented in previous studies conducted by the PIs.

Aim 2 status: The community partnership committees in the three tribal sites reviewed the intervention materials. The 10 Talking Circle sessions in the manual were tailored for cultural congruency for each of the three tribal sites.

Aim 3 To conduct a two-condition controlled study to evaluate the efficacy of the adapted after-school-based culturally competent intervention, ITC, for American Indian early adolescents to examine the impact of the ITC intervention on prevention of substance abuse involvement.

Aim 3 status: Currently being implemented in rural schools in all three tribal areas with the integration of virtual sessions.

Aim 4 To implement and evaluate an adult training program of the ITC for tribal personnel, educators and counselors to ensure sustainability of the intervention in each tribal community.

Aim 4 status: The adult training program will begin in August 2016.

Enhancing Prevention Pathways Towards Tribal Colorectal Health

AIM 1 Finalize and evaluate (using a three-arm randomized controlled trial design and mixed methods) the efficacy of serially implemented interventions of graded intensity for increasing annual colorectal cancer (CRC) screening uptake using the fecal immunochemical test (FIT) by average-risk adult American Indians (AIs).

Our primary hypothesis is that participants receiving the high-intensity intervention will have a 10 percentage point increase in screening uptake than those receiving usual care.

AIM 2 Determine (using qualitative methods) promoters and barriers to enhancing annual CRC screening practices from the perspective of: (a) participants who were “largely adherent” (completed FIT 2 or 3 of 3 times) and those who were “not adherent” (never completed or completed FIT only 1 of 3 times) to CRC screening guidelines; (b) navigators; and (c) health care providers and medical directors at Indian Health Service health facilities.

AIM 3 Conduct process evaluation (using mixed-methods) to: (a) determine the costs of completing CRC screening (and appropriate follow-up diagnostic and treatment services, as needed); (b) determine fidelity of study implementation (e.g., recruitment, intervention delivery, barriers); and (c) develop program sustainability and scalability plans.

We hypothesize that the cost analysis will indicate that the high- followed by the medium-intensity interventions are more cost-effective strategies to enhance CRC screening uptake (and subsequent diagnostic and treatment follow-up) than usual care.

The process evaluation will inform an effectiveness trial (R01 application) and plans to sustain and scale-up the intervention model to other AI communities.

The project is a collaborative effort between six Tribes in rural New Mexico, the Albuquerque Area Indian Health Board, and the University of New Mexico.
Community Intervention to Reduce Tobacco Use Among Pregnant Alaska Native Women

**Aim 1**

To develop and pre-test the social marketing campaign messages and delivery channels through focus groups and individual interviews of Alaska Native pregnant women, family members, and Elders.

The focus group work will assess reasons for initiating or continuing tobacco use during pregnancy and the potential role of other community members in addressing tobacco use in pregnancy. Findings will be used to develop campaign messages and media that will be pre-tested through individual interviews and refined. Session content for the individually targeted intervention components will also be developed to align with the campaign messages.

Aim 1 status: Completed. In Phase I we developed and pre-tested the culturally appropriate social marketing campaign messages and delivery channels through focus groups and individual interviews of pregnant women, family members, and Elders. Session content for individually targeted intervention components was completed. Female Elders or women in good standing in the intervention villages were hired as “Native Sisters” and trained to deliver the intervention that includes individual intervention components as well as a social marketing campaign including digital stories and other small media.

**Aim 1 Presentations**


**Aim 2**

To conduct a cluster randomized trial with village as the unit of assignment with a control comparison condition to evaluate the efficacy of the intervention compared with the control condition on the biochemically confirmed 7-day point prevalence tobacco use rate at week 36 gestation and at 6 months postpartum.

Our intervention combines the most effective approach for community-level and individual-based interventions, maximizing potential impact on tobacco use outcomes.

Aim 2 status: In progress. We recently started recruitment and have: 2 participants, 2 baseline surveys, 0 week 12 post-baseline surveys, 0 week 36 gestation, 0 week 8 postpartum surveys, 0 week 26 postpartum surveys.

**Aim 3**

To examine the effect of the intervention on proposed social cognitive-theory based mediators of change including perceived social norms about tobacco use and self-efficacy for non-tobacco use.

For intervention villages, we will assess the pregnant woman’s reported exposure to the social marketing campaign using continuous scales adapted from prior research. For example, her awareness/recall of the campaign messages and media (e.g., point of purchase displays), if she used/read various campaign media such as brochures and viewed the digital stories DVD, and if she shared these materials and/or the information with others in her village.

Aim 3 status: Will be assessed at 36 weeks gestation and 26 weeks postpartum.

**IRINAH SUPPORT CURRENTLY COMES FROM THE FOLLOWING CENTERS**

- National Cancer Institute (NCI)
- National Heart, Lung, and Blood Institute (NHLBI)
- National Institute of Environmental Health Sciences (NIEHS)
- National Institute on Alcohol Abuse and Alcoholism (NIAAA)
- National Institute on Drug Abuse (NIDA)
- National Institute of Mental Health (NIMH)
- National Institute of Nursing Research (NINR)
Aim 1: This research is evaluating the efficacy of two culturally-tailored technology-mediated disease prevention interventions for supporting change in multiple risk behaviors in rural Alaska Native (AN) men and women.

Compare Group 1 (tobacco cessation & physical activity; n=150) and Group 2 (medication adherence and nutrition; n=150) in tobacco abstinence and physical activity through 18-month follow-up.

Aim 2: Compare Group 1 and Group 2 on blood pressure and cholesterol levels through 18-month follow-up.

Additional Aims

Compare the two active conditions on overall behavior change quantified as a multiple risk behavior change impact factor, with the Framingham Risk Factor Score, a linear index, and latent class analysis.

Model the cost-effectiveness of each intervention in terms of cost per expected gain in quality adjusted life years.

Analyze the budgetary impact on the incremental cost of adopting the interventions, calculated as a cost per treated person.

Examine moderators and mediators of treatment outcomes, including home village size, active disease status, baseline risk profile, and biomarker profiles.

Status: Essential approvals for the study were obtained from the Alaska Area IRB, the Norton Sound Research Ethics Review Board (RERB), the Norton Sound Health Corporation Board of Directors, and the Alaska Native Tribal Health Consortium (ANTHC) including the committees of RAMP (Research, Abstracts, Manuscripts, Proposal), HRRC (Health Research Review Committee), and the ANTHC Board of Directors.

To date, we have enrolled 63 participants into the study, with 71% retention at 3-month follow-up. All participants are of Alaska Native heritage, 61% are women, with an age range of 29 to 81 (mean=54, SD=12).

Supplements

NHLBI diversity supplements were awarded to Jordan Skan and Maria Crouch, clinical psychology doctoral students of Alaska Native heritage at the University of Alaska-Anchorage, and to Madeline Hess, now a freshman of Puerto Rican descent at Dartmouth.

Mr. Skan’s project centers on a multimedia enhanced informed consent process to improve understanding of research participation.

Ms. Crouch conducted 2 focus groups in Nome with plans for Brevig Mission and Gambell. Indigenous identity appears related to quality of life (QoL), heart health, and smoking behavior. Seven identified QoL domains are: acts of self, health and happiness, subsistence, family, being active, providing, and religion.

Ms. Hess completed her community art project with children in Nome centering on heart health. The work was compiled into a printed book and provided to the NSHC Board of Directors for distribution.

Aim 1 & 2 Presentations


Aim 1 & 2 Publications


Qungasvik (Toolbox): Prevention of Alcohol/Suicide Risk in Alaska Native Youth

**Aim 1** Test Qungasvik intervention efficacy through impact on ultimate outcome variables of reasons for life and reflective processes on alcohol use consequences, and on suicidal ideation and alcohol use.

**Aim 1 status:** Disseminating preliminary data, including comparative effectiveness trial and prevention trial 1 outcomes.

**Aim 1 Presentations**


**Aim 2** Examine the mechanisms of change in response to the Qungasvik intervention through: (a) Self-report Measures: intermediate outcome measures of individual, family, peer, and community protective factors; (b) Social Network Assessment: social network characteristics of supportive relationships with elders, immediate and extended kinship relations, and community adults and describe social network change; and (c) Formative Process Evaluation and Qualitative Outcomes Description: using qualitative interviewing and grounded theory analysis techniques, describe process and impact of the intervention from community elder and parent perspectives.

**Aim 2 status:** Disseminating preliminary data on social network analysis.

**Aim 2 Presentations**


**Aim 2 Publications**


**Aim 3** Test implementation fidelity to the Qungasvik intervention model and describe participating youth protective factors exposure.

**Aim 3 status:** Developing system of fidelity assessment and piloting.
**Family Listening Program: Multi-Tribal Implementation and Evaluation**

**Aim 1** Rigorously test the effectiveness of the Family Listening/Circle Program (FL/CP), with a comparative longitudinal design within and across three small tribal communities, with 4th and 5th graders to prevent substance abuse initiation disparities and to strengthen family well-being.

Through a quasi-experimental longitudinal design, we will test effectiveness of the FL/CP prevention program with intervention groups of 4th and 5th graders as compared with other 4th and 5th graders, both within and across tribes. Quantitative pre, post-immediate, and 1-year post measures of substance abuse risk and protective factors will be triangulated with qualitative data, also comparing children and parent responses on psychosocial factors, family communication and cultural connectedness. Process evaluation will assess satisfaction, quality, and fidelity to both core evidence and specific cultural curriculum components.

Aim 1 status: In progress. Two of the four waves of program implementation have been conducted in each of the three tribal communities. Year 1: 25 program child and 32 program adult participants with 10 comparison children and 12 comparison adult participants. Year 2: 29 program child and 32 program adult participants with 19 comparison children and 17 comparison adult participants.

**Aim 1 Presentations**


**Aim 2** Through CBPR, to support the three Tribal Research Teams (TRTs) to transform their research capacities into local prevention research infrastructures and a shared partnership.

Building from the strengths of UNM-Center for Participatory Research’s (UNM-CPR) partnership with Pueblo of Jemez to help coordinate the three tribes in the trial, each TRT will receive trainings in advanced CBPR and prevention science, with annual collaborative face-to-face TRT meetings to share lessons learned and support local tribal structures for future prevention research and programs. A novel CBPR conceptual model will guide evaluation of UNM-CPR and TRT partnership processes to assess effectiveness in fulfilling grant objectives and in reducing substance abuse.

Aim 2 status: In progress. Years 1 & 2 partnership evaluations have been completed with each of the three Tribal Research Teams.

**Aim 3** Assess additional program effects on other health, education and youth programs and leadership within the three tribes.

The FL/CP has potential for deep cultural embeddedness and community integration into other health and education prevention programs. We plan to assess knowledge about FL/CP and effects on tribal programs and leadership by interviewing people with varying degrees of closeness. Through interviews with program managers, staff, educators, and tribal leaders, we will assess implementation and diffusion outcomes, such as potential for sustainability, pathways of information exchange, level of integration of curriculum into other programs, and multi-program collaboration.

Aim 3 status: In progress. Year 1 interviews have been completed (11 participants) and Year 2 interviews are currently being scheduled (target of 12 participants: four in each tribal community).
To conduct a longitudinal study using a cluster randomized stepped-wedge design (5 regions within Choctaw Nation, 30 women per site; N=150) to assess the intervention impact on the primary aims of: (a) substance use harm reduction (SUHR) and AOD use and intentions to use; and (b) reduction in weight/BMI and increase in leisure-time physical activity and healthful food habits.

Aim 1 status: Ongoing. Thus far our participants are as follows per Communities 1 and 2. For Community 1: 13 baseline assessments completed; thirteen 3-month assessments completed (100% retention); thirteen 6-month assessment completed (100% retention); and twelve 12-month assessments completed (92% retention). For Community 2: 29 pre-intervention assessment 1; 29 pre-intervention assessment 2 (6 months; 100% retention); 29 pre-intervention assessment 3 (3-months; 100% assessments); and 29 baseline assessments. Community 2 has begun the active phase of intervention.

**Aim 1 Presentations**


**Aim 2 status: In progress.**

**Aim 2** To disseminate the findings to the tribe as well as research outlets and prepare translational materials for community consumption and programmatic implementation should the intervention be efficacious.

In this project, we translate a rigorously evaluated evidence-based practice (Iowa Strengthening Families Program for Families and Youth 10-14) for use with tribal families, adapting and anchoring it within cultural practice arising from within the community. The Northern Plains version of the program is called Thiwâhe Gluwâš’akapi, translated as “sacred home in which family is made strong.”

**Aim 1** Develop a culturally grounded, family-based early substance use prevention intervention tailored to a Northern Plains American Indian reservation.

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**Period of performance:** Jun 2013 - Mar 2018

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(Continued on back cover)
Culturally Grounded Early Substance Use Prevention for American Indian Families

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a) Use an evidence-based program approach to implement a proven program (Iowa Strengthening Families Program).

b) Ground evidence-based program within American Indian culture, using local cultural teachings as the context for delivery of the intervention.

Aim 1 status: Completed. The Strengthening Families Program 10-14 was reviewed and adapted to align with local culture. This included creating two sets of videos with local actors, locations, and language.

Aim 1 Presentations


AIM 2 Pilot the adapted program – Thiwâhe Gluwâs’akapi (TG) – to determine feasibility, refine details, and maximize fit within the community.

Aim 2 status: Completed. Pilot groups consisted of 21 adults and 15 youth in two intervention groups (Cohort 1) in two villages on the reservation. In addition to piloting the program, the Participant Outcome Surveys (one for youth and one for caretakers) were developed (including culturally-appropriate parenting measures) and tested during the pilot. The technological aspects of collecting data via iPads to a secure server were also tested.

AIM 3 Test the adapted program, using the principles of the Multiphase Optimization Strategy for intervention evaluation and development to determine the relative effect sizes of intervention components and inform a final TG program that balances effectiveness and efficiency.

AIM 4 Set the stage for a randomized controlled trial of the full intervention and, eventually, the broad, sustainable implementation of TG by the tribal health administration.

Aim 4 status: In progress. We are continually working to enhance participant recruitment and retention as well as staff training, support, and retention. We continue to invite input from and disseminate progress to the East Council (our community advisory board). With an eye to sustaining the Thiwâhe Gluwâs’akapi program (should the evaluation show effectiveness), we are working to certify local staff as program trainers. Iowa State University continues to work with us on training, material development, and future production of materials needed to sustain the implementation of the final program.