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Report on American Indian and  
Alaska Native Activities

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*in collaboration with the NIH Institutes and Centers*

## Table of Contents

American Indian, Alaska Native, and Native Hawaiian 2016 Health Planners: .....	4
American Indian Mid-Atlantic Powwow Outreach Program: .....	4
Arsenic, Epigenetics, and Cardiovascular Disease in American Indians: .....	4
Asthma Care Implementation Program in Four Corners: .....	4
Caring Texts: A Strength-based, Suicide Prevention Trial in Four Native Communities:.....	5
Center for American Indian and Alaska Native Diabetes Translational Research:.....	5
Centers of Excellence on Environmental Health Disparities Research: .....	5
Cherokee Nation and Cancer Center Collaboration on Cancer Disparities:.....	6
Chickasaw Health Information Center: .....	6
Chronic Pain Management Experiences and the Acceptability of Cognitive Behavioral Strategies among American Indians and Alaska Natives: .....	6
Clinical Trials Network American Indian and Alaska Native Interest Group:.....	6
Collaborative Research Center for American Indian Health: .....	7
Community-Based Partnership Research Initiative in Reducing Infant Mortality in American Indian Activities:.....	7
Contingency Management Treatment of Alcohol Abuse in American Indian People: .....	7
Dental Care Delivery System Intervention in Alaska Native Communities: .....	7
Developing an Advanced Care Planning Intervention for Alaska Natives and American Indians: 8	
Developing Effective Proximal Care to Prevent Rural Alaska Native Youth Suicide:.....	8
Digital Storytelling Workshop:.....	8
Economic Resources and Obesity:.....	8
Enhancing the Diversity of the NIH Funded Workforce: .....	8
Building Infrastructure Leading to Diversity:.....	9
Coordination and Evaluation Center:.....	9
National Research Mentoring Network: .....	9
Environmental Health Information Partnership:.....	9
Family Study on Arsenic Exposure, Genetic Determinants, and Diabetes Risk: .....	10
Fatty Liver Disease among American Indian Populations: .....	10
Fish Consumption Advisory to Promote Anishinaabe Environmental Health Literacy:.....	10
Food Resource Equity and Sustainability for Health:.....	11
Forecasting Pneumococcal Serotype Frequencies to Develop Adult-Specific Vaccines: .....	11
Forum on Heart, Lung, and Sleep Disorders in AI/AN/NH Youth: .....	11
Functional Outcomes for AI/AN Children with Traumatic Brain Injury: .....	11

Genetic Trait in Pima Indians Linked to Increased Birth Weight and Elevated Risk for Type 2 Diabetes: .....	12
Healthy Native Babies Project: .....	12
Impact of Culturally Specific Danger Assessment on Safety, Mental Health, and Empowerment: .....	12
Increasing AI/AN Research Engagement through a Culturally Adapted Ethics Training:.....	12
Indigenous HIV/AIDS Research Training Program: .....	13
Indigenous Pathways of Substance Use and Mental Health through Early Adulthood:.....	13
Institutional Development Award:.....	13
Intertribal Talking Circle for the Prevention of Substance Abuse in Native Youth:.....	14
Motivational Interviewing and Culture for Urban American Indian Youth: .....	14
Multigenerational Household Intervention to Reduce Stroke and Cardiovascular Disease: .....	14
Native American Research Centers for Health:.....	14
Native American Research Centers for Health Principal Investigator Meeting: .....	15
Native Elder Research Center's AI/AN Alzheimer's Disease Research Network: .....	15
Native Voices: Native Peoples' Concepts of Health and Illness Traveling Exhibition:.....	15
NIH Intensive Course in Genomics for Teachers: .....	16
NIH Visit Week: .....	16
Oral Health Status in Native Head Start Children: .....	16
Partnership to Establish Tribally-Owned and Operated Biobank:.....	16
Partnerships to Prevent Childhood Obesity on the Flathead Indian Reservation: .....	17
Preventing HIV among American Indians through the Treatment of PTSD and Substance Use: 17	
Qungasvik (Toolbox): Prevention of Alcohol/Suicide Risk in Alaska Native Youth:.....	17
Racial/Ethnic and Socioeconomic Differences Impact Disparities in Infant Mortality Rates: ....	17
Reducing the Incidence of Suicide in Indigenous Groups – Strengths United through Networks (RISING SUN): .....	18
Science Education Partnership Award:.....	18
Short-Term Research Experience Program for Underrepresented Persons:.....	18
Strategies for Preventing Underage Drinking and Other Substance Use in American Indian Tribal Communities: .....	19
<i>Streptococcus mutans</i> and Dental Caries among American Indian Children: .....	19
Strong Heart Study:.....	19
Substance Abuse Prevention Campaign for American Indian Youth:.....	20
Summer Program in the Neurological Sciences: .....	20

Technology Innovations for Supporting Health in Alaska Native People:.....	20
Tó Litso, the Water is Yellow: Investigating Short Term Exposure and Risk Perception of Navajo Communities to the Gold King Mine Toxic Spill: .....	21
Tools to Address Prostate Cancer Disparities in Minority Men: .....	21
Trans-NIH American Indian and Alaska Native Health Communications and Information Work Group: .....	21
Trans-NIH American Indian/Alaska Native/Native Hawaiian Research Interest Group: .....	21
Trans-NIH Conference for Native Youth Interested in Biomedical Research Careers: .....	22
Tribal Colleges and Universities Behavior Wellness Study: .....	22
United and Southern Eastern Tribes Women’s Health Project:.....	22
Washington University Center for Diabetes Translation Research: .....	23
Worker Training Program:.....	23
Workshop on the Value of Tribal Ecological Knowledge for Environmental Health and Biomedical Research: .....	23
List of Acronyms .....	25

**This report provides selected highlights of American Indian and Alaska Native (AI/AN) research accomplishments and activities at the National Institutes of Health (NIH) during fiscal year 2016.**

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**American Indian, Alaska Native, and Native Hawaiian 2016 Health Planners:**

As part of an NIH National Multicultural Outreach Initiative (<http://www.niams.nih.gov/multicultural/>), a set of 2016 health planners was developed and distributed, including a planner tailored for AI/AN populations and Native Hawaiians. NIH partnered with the Indian Health Service, the Administration on Aging/Administration for Community Living, other HHS agencies, and tribal partners to distribute these culturally-tailored planners to Native communities nationwide.

**American Indian Mid-Atlantic Powwow Outreach Program:**

In FY 2016, NIH completed its 15<sup>th</sup> year of outreach to American Indian powwows in the mid-Atlantic region. The powwow program provides free NIH health information to tribal communities sponsoring or attending powwows primarily in the states of MD, VA, PA, NJ, DE, and NC. Exhibits at powwows allow NIH to interact with the community and demonstrate how to use and access the National Library of Medicine's free resources for AI/AN individuals. Part of the mission of the powwow program is to share resources and information to live a healthier lifestyle. NIH staff review the full calendar of powwows scheduled for each powwow season, and select a balanced geographic mix of about a dozen powwows. The FY 2016 powwows included: Healing of All Nations Powwow; Baltimore Indian Center Annual Powwow; Haliwa-Saponi Powwow; Ontelaunee Park Annual Intertribal Powwow; Lumbee Indian Annual Spring Powwow; Howard County American Indian Powwow; Nanticoke Lenni-Lenape Tribal Powwow; Annual Roasting Ears of Corn Festival; Kipona Native American Festival; Nanticoke Indian Powwow; Lawilowan American Indian Muddy Run Powwow; and Chickahominy Tribe Fall Powwow. More information about the powwow program can be found online at: <https://infocus.nlm.nih.gov/2016/10/27/experiencing-nlm-outreach-powwows-2/>

**Arsenic, Epigenetics, and Cardiovascular Disease in American Indians:**

Arsenic exposure appears to play a role in cardiovascular disease development and American Indian communities may be at particular risk. This research project is evaluating whether changes to genes that occur during a person's lifetime (epigenetic modifications) can mediate the association of arsenic with cardiovascular disease in American Indian communities. This study may provide data to inform recommendations for arsenic levels in drinking water and food. In FY 2016, 3,574 DNA samples from AI individuals participating in the Strong Heart Study were identified for analysis.

**Asthma Care Implementation Program in Four Corners:**

The NIH Asthma Empowerment Program supports investigators planning a clinical trial to evaluate asthma care implementation programs (ACIP) for children at high risk of poor asthma outcomes. In FY 2016, one research project conducted a community needs assessment to ensure

the proposed ACIP would meet the needs of Navajo children. This research built on community outreach efforts conducted in 2014 with over 50 healthcare providers and critical access hospitals in the Four Corners region (including the Southern Ute, Ute Mountain Ute, and Navajo Nation Reservations).

**Caring Texts: A Strength-based, Suicide Prevention Trial in Four Native Communities:**

Caring Texts is a strength-based suicide prevention study that responds to urgent AI/AN community suicide prevention needs. Caring Texts makes cultural adaptations to the evidence-based Caring Letters/Texts intervention for at-risk individuals in Native communities. In FY 2016, this project refined messages to increase relevance to local communities and identified local suicide prevention resources. The formal launch of the study will be held in FY 2017. This is the first randomized controlled trial of a suicide prevention program for AI/AN youth and young adults, addressing a major gap in the suicide prevention.

**Center for American Indian and Alaska Native Diabetes Translational Research:**

AI/AN individuals are at greater risk of becoming diabetic than any other segment of the U.S. population, suffer high rates of serious complications due to diabetes, and die prematurely as a consequence. The Center for American Indian and Alaska Native Diabetes Translational Research (CAIANDTR) is working to increase scientific knowledge about the types of diabetes prevention and management interventions that have been proven effective in both clinical and community settings, with the goal of improving the diabetes-related health of AI/AN individuals. In FY 2016, CAIANDTR successfully re-competed for funding. Recent Center-supported findings include the development a risk-scoring tool to predict the likelihood that participants will continue in a diabetes lifestyle intervention and the study of psychosocial predictors of weight loss among AI/AN participants in a diabetes prevention project. Online at: <http://www.ucdenver.edu/academics/colleges/PublicHealth/research/centers/CAIANH/cdtr/Pages/CAIANDTR.aspx>

**Centers of Excellence on Environmental Health Disparities Research:**

Two NIH/EPA-funded Centers of Excellence are focused on environmental health disparities among local tribal communities. The Arizona Center for Indigenous Environmental Health Research partners with tribal communities on environmental exposure research, and builds Native community capacity to address environmental health inequities. In FY 2016, research at the Center worked to characterize the extent of contamination in mutton, a culturally significant food, and plants and soils in the Navajo communities of Leupp and Cameron, Arizona. The Center's infrastructure is supporting pilot projects and the career development of young Native investigators and, in addition, provides research infrastructure for a time-sensitive Gold King Mine spill project. The New Mexico Center for Native American Environmental Health Equity Research examines and compares mechanisms of toxicity in mining waste metal mixtures across three tribal populations (Navajo, Hopi, and Sioux) exposed to contaminants from over 4,000 abandoned uranium mines. In FY 2016, the New Mexico Center strengthened partnerships between researchers and community groups and developed a lecture series and summer research training program on environmental health disparities.

### **Cherokee Nation and Cancer Center Collaboration on Cancer Disparities:**

American Indian tribal communities suffer disproportionately from both cancer and educational disparities. Smoking is a pressing public health concern for AI individuals and a major contributor to cancer disparities. The use of electronic cigarettes is evolving but has not been examined in American Indian smokers. The collaborative partnership between the Cherokee Nation and the Stephenson Cancer Center is working to increase research capacity to address tobacco-related cancer disparities, including investigating the effects of electronic cigarettes, in the Cherokee Nation. The partnership includes support for pilot research studies and a training and education program for new investigators and students. In FY 2016, the partnership supported development of collaborative leadership and worked to additional faculty from surrounding research intensive universities. The collaborative also began developing pilot research projects and supported a training program for undergraduate students.

### **Chickasaw Health Information Center:**

The Chickasaw Nation, ComputerCraft, Inc., and NIH have collaborated to develop the “Chickasaw Health Information Center” (CHIC). This information center is designed to provide convenient and quality health information to members of its community as one way to help patients learn to improve their overall health and well-being. Another important objective of CHIC is to increase the awareness of NIH health information resources among the Chickasaw community. The CHIC website is hosted and managed by ComputerCraft, a company owned by members of the Chickasaw Nation. CHIC information kiosks were introduced in the Chickasaw Nation health clinics in Ardmore and Tishomingo in FY 2016. These resources are free to use and can help individuals find reliable answers to their health questions online while they wait at the Chickasaw Nation Medical Center or clinics, or in the privacy of their own home. CHIC is located in the Town Hall of the Chickasaw Nation Medical Center in Ada, OK. Online at: [www.chicresources.net](http://www.chicresources.net)

### **Chronic Pain Management Experiences and the Acceptability of Cognitive Behavioral Strategies among American Indians and Alaska Natives:**

This research project is investigating chronic pain among American Indians and Alaska Natives. In FY 2016, focus groups were held with AI/AN individuals in the Southwest and Pacific Northwest United States. The participants reported health care insufficiencies and a need for individually-tailored, culturally-appropriate approaches to chronic pain management. Participants also reported a need for better standard pain management, including the availability of appropriate allopathic pain management therapies, and complementary and alternative pain management strategies, such as cognitive behavioral approaches. Similarities exist between some of these strategies and traditional AI/AN pain management techniques. This research forms an important foundation to better understand chronic pain experiences among AI/AN individuals and develop more effective chronic pain management strategies through cognitive behavioral health approaches.

### **Clinical Trials Network American Indian and Alaska Native Interest Group:**

NIH conducts ongoing monthly meetings with a group of substance abuse treatment researchers focused on AI/AN populations. FY 2016 activities included a focus on further development of the AI/AN research portfolios related to substance abuse at NIH and strategies to assist AI/AN investigators to develop competitive grant applications.

### **Collaborative Research Center for American Indian Health:**

The Collaborative Research Center for American Indian Health (CRCAIH) brings together tribal communities and health researchers within SD, ND, and MN. CRCAIH is building tribal research infrastructure and transdisciplinary research teams to improve American Indian health through examination of social and environmental influences on health. In FY 2016, one CRCAIH project focused on the use of and care provided to AI children in hospital emergency departments (ED). Scant available data suggest that AI children have increased ED usage compared to White children, increased rates of leaving the ED without receiving care, and possible differential care provided within the ED setting. This project is using a multidisciplinary research team to examine patterns of ED use and care for AI children. A survey of care providers at five hospitals measured implicit and explicit bias towards children and caregivers in the ED. This research found that 84 percent of clinicians had an implicit preference for White adults or children. In addition, the greater the number of AI children seen in the ED, the more clinicians saw AI children as “challenging” and caregivers as “less compliant.” Further research will examine how ED clinician biases influence health care or outcomes disparities and what types of interventions can be created to reduce this disparity. Online at: <http://www.crcaih.org/>.

### **Community-Based Partnership Research Initiative in Reducing Infant Mortality in American Indian Activities:**

This project is engaging American Indian communities in the design and implementation of an intervention to reduce the risk for Sudden Infant Death Syndrome (SIDS) and other related infant deaths due to unsafe sleep environments. According to the Centers for Disease Control and Prevention, AI/AN babies have 1.6 times the infant mortality rate as non-Hispanic Whites and are 1.7 times as likely as non-Hispanic White babies to die from SIDS. An even greater disparity exists among Northern Plains tribes, where the SIDS rate is 6.4 times the overall U.S. SIDS rate. This research is investigating the influence of post-natal factors on infant mortality, including parental knowledge, cultural beliefs, and access to resources that inform decision-making on infant sleep environments. In FY 2016, the researchers analyzed data from focus groups involving pregnant adolescents, pregnant women, elder women, and fathers. The project has also established a community advisory board and completed cultural competency training.

### **Contingency Management Treatment of Alcohol Abuse in American Indian People:**

Alcohol dependence and consequences disproportionately affect AI/AN individuals, however few evidence-based treatments are available in Native communities. This project is evaluating a culturally-acceptable contingency management intervention, a behavioral treatment that is highly effective for substance abuse, in 400 AI/AN participants with alcohol dependence. This sustainable and portable intervention may have considerable public health impact for the many American Indians and Alaska Natives who experience alcohol-related health disparities.

### **Dental Care Delivery System Intervention in Alaska Native Communities:**

This multilevel intervention study is incorporating evidence-based dental treatments into routine care delivered by a dental team to the AN population served by the South East Alaska Regional Health Consortium. The long-term goal is to design, implement, and evaluate a series of dental care delivery system changes to improve oral health while reducing costs.



### **Developing an Advanced Care Planning Intervention for Alaska Natives and American Indians:**

AI/AN communities are rarely involved in palliative care research, and AI/AN individuals rarely receive palliative care early in treatment when it could maximize benefits. This new project in FY 2016 is working to improve communication with AI/AN patients about palliative care using a culturally-congruent, patient-centered strategy developed to improve advanced care planning communication in primary care settings.

### **Developing Effective Proximal Care to Prevent Rural Alaska Native Youth Suicide:**

The annual rate of death by suicide among AI/AN youth is significantly higher than that of other young Americans. The Promoting Community Conversations about Research to End Suicide (PC-CARES) study is working to reduce barriers for mental health help-seeking and promote early interactions between providers and community members to better meet the needs of Native youth. This project takes a public health approach, aiming to shift from crisis intervention to selective outreach and community-integrated care of youth at risk for suicide. Native village counselors and non-Native clinicians are being trained to facilitate community outreach sessions that will bring together cultural and local knowledge and clinical expertise. This approach will promote knowledge exchange and relationship-building among providers and community members. An ongoing regional suicide surveillance system will assess changes in the severity of risk and level of collaboration when youth are referred to services for suicidal behavior, before and after implementing PC-CARES to measure the impact of this project.

### **Digital Storytelling Workshop:**

In FY 2016, NIH supported a digital storytelling workshop conducted by nDigiDreams, a Native-owned organization, in partnership with the American Indian Community House in New York, NY. The four-day workshop taught urban Native community members and staff of the Community House to visually and orally document their “lived experience.” These health and wellness stories will be shared with the community during a digital storytelling festival in FY 2017.

### **Economic Resources and Obesity:**

Obesity is a leading cause of morbidity and mortality, and research has shown a strong correlation between fewer economic resources and increased obesity. This project examines how the introduction of casino-style gaming to American Indian tribal lands in California may impact population health by increasing economic resources. By correlating existing geographically-linked vital records and school fitness testing records with casino openings, the project is analyzing the impact of economic resources on excessive gestational weight gain, large-for-gestational-age infant birth weights, and child obesity for AI populations. This project may also gather formative, qualitative data to assess how economic resources stemming from casinos may affect weight-related health.

### **Enhancing the Diversity of the NIH Funded Workforce:**

NIH awarded nearly \$46 million in FY 2016 to invest in innovative approaches to training and mentoring researchers, including those from backgrounds underrepresented in biomedical sciences. These awards are part of a five-year program to support more than 50 awardees and partnering institutions in establishing a national consortium to develop, implement, and evaluate

approaches to encourage individuals to pursue and persist in biomedical research careers. Collectively, these awards aim to enhance representation of people from diverse groups, including AI/AN individuals, in the NIH-funded workforce. Online at:

<http://commonfund.nih.gov/diversity/overview>

This consortium is composed of three integrated initiatives:

**Building Infrastructure Leading to Diversity:**

Building Infrastructure Leading to Diversity (BUILD) is a grant system incorporating interventions in research training at the student, faculty, and institutional-level. Through a set of 10 experimental training awards, BUILD programs prepare students to become future contributors to the NIH-funded research enterprise. Institutions are encouraged to incorporate additional innovative methods to engage and prepare students for success, including those who might otherwise not choose biomedical research careers. The BUILD awardees work with multiple partnering institutions to provide robust research training and mentorship experiences for students and faculty. Overall, BUILD sites and their partner institutions include 2 Tribal Colleges and Universities and 12 American Indian Alaska Native Serving Institutions.

**Coordination and Evaluation Center:**

The Coordination and Evaluation Center (CEC) coordinates consortium-wide activities and assesses the efficacy of the training and mentoring approaches developed by the BUILD and NRMN awardees. Given the wide range of geographical, racial, ethnic, linguistic, and cultural diversity represented by the BUILD and NRMN awardees and their partners, the CEC allows for the rigorous analysis of which interventions are most effective in different contexts and for which populations. These findings will have implications for recruiting, training, and mentoring of diverse groups nationwide, including AI/AN.

**National Research Mentoring Network:**

The National Research Mentoring Network (NRMN) has developed a nationwide network of mentors and mentees spanning all biomedical disciplines, and will continue developing best practices for mentoring, mentor training, and professional development opportunities for mentees and mentors. The NRMN has partnerships with organizations that serve AI/AN populations including: the Society for the Advancement of Chicanos and Native Americans in Science, American Indian Science and Engineering Society, Association of American Indian Physicians, Northern Arizona University Center for American Indian Resiliency, Washington State University Behavioral Health Collaborative in Rural American Indian Communities, and the University of Washington Regional Native American Community Networks Program.

**Environmental Health Information Partnership:**

The Environmental Health Information Partnership (EnHIP) is a capacity-building collaboration of minority-serving academic institutions, including three TCUs, to reduce health disparities through the access, use, and delivery of environmental health information on campuses and in communities. The representatives of the 21 EnHIP schools held their annual meeting at Haskell Indians University, Lawrence, KS, in March 2016, focused on the theme of *Environmental*

*Health Disparities: Challenges and Opportunities.* NIH funds annual information outreach projects proposed by member EnHIP schools. In FY 2016, NIH funded the University of Alaska, Anchorage's project, *Food Justice in the Arctic: Community Action to Raise Awareness About and Mitigate Food Waste in Anchorage Households by Empowering Elementary School Children.* With the USDA's current Food Waste Innovation Zone initiative as the backdrop, this project partnered university seniors with five elementary school classrooms in the Anchorage School District to map household food systems' sustainability and better understand local food security. Using NIH's library resources, students are working to innovatively address food waste at the community level.

**Family Study on Arsenic Exposure, Genetic Determinants, and Diabetes Risk:**

This project is investigating the role of arsenic exposure and metabolism and the interaction with genes in the development of diabetes in American Indian communities. In FY 2016, data gathered suggest that rural Native communities may be disproportionately exposed to metals through drinking water and food. These findings highlight the importance of preventing metal exposure in drinking water in Native communities, which often rely on private wells that are not required to comply with arsenic standards set forth by the EPA.

**Fatty Liver Disease among American Indian Populations:**

Fatty liver disease (FLD), hepatic steatosis, and fibrosis, often lead to cirrhosis of the liver and liver cancer. Among American Indians, chronic liver disease is the fifth leading cause of death. Risk factors include obesity, insulin resistance, alcohol consumption and viral hepatitis, but there is little data available on the individual and combined influence of each of these factors on the development of fatty liver and its progression to fibrosis. This new study in FY 2016 is working to identify associations and longitudinal determinants of hepatic steatosis and fibrosis in AI participants of the Strong Heart Study. This research may propose a mechanism that leads to the increased rate of chronic liver disease seen in many AI communities and identify important targets of intervention and prevention in populations with high rates of metabolic disease.

**Fish Consumption Advisory to Promote Anishinaabe Environmental Health Literacy:**

The Anishinaabe-Ojibwe (Chippewa) have a long tradition of fishing culture. Due to concerns regarding exposure to persistent bioaccumulative toxics (PBTs) in the Upper Laurentian Great Lakes, many individuals have reduced their fish consumption to one-third of the recommended daily intake. The focus of this research is to reduce health risks associated with PBTs while maximizing the nutritional benefits associated with fish consumption. In FY 2016, this project developed interactive educational materials to promote healthy diets. The culturally-tailored "Smart Fish" mobile phone application was developed to allow on-demand calculation of safe fish consumption rates based on the age, sex, and weight of the user. "Smart Fish" was evaluated by 24 adults, including a culturally-embedded facilitator and tribal members, who were recruited by the Inter Tribal Council of Michigan. Outcomes from this focus group showed that most participants would use the application if it included: 1) information specific to Great Lakes fish, environmental contaminants, and environmental quality; and 2) Anishinaabe traditional knowledge and fisheries management. In June 2016, a webinar presentation on "The Complexity of Communicating Risk in the Context of Fish Consumption" was held by NIH, which included a discussion of the community-based research conducted with the Anishinaabe. Online at: [http://www.niehs.nih.gov/research/supported/translational/peph/webinars/fish\\_consumption/](http://www.niehs.nih.gov/research/supported/translational/peph/webinars/fish_consumption/).

**Food Resource Equity and Sustainability for Health:**

American Indian individuals in Oklahoma are more likely to be food-insecure than their non-Hispanic White counterparts and have a higher prevalence of obesity, cardiovascular disease, and diabetes. Many existing diet-and obesity-related health promotion interventions with AI/AN populations have emphasized behavioral change. Less work has emphasized structural changes to the local food environment. This project is evaluating the efficacy of a community gardening intervention on fruit and vegetable consumption, food insecurity, and health outcomes of body mass index and blood pressure in families living on the Osage Nation reservation in Oklahoma. The study is guided by the principles of community-based participatory research and the Indigenous food sovereignty movement, which seeks to revitalize seasonal growing and gathering practices and reverse unhealthy eating caused by the historical loss of tribal lands.

**Forecasting Pneumococcal Serotype Frequencies to Develop Adult-Specific Vaccines:**

This research is working to develop a prediction model that identifies which pneumococcal serotypes will most likely emerge and understand how these emerging serotypes will impact disease rates in adults. Specimens from active surveillance for invasive pneumococcal disease in two different populations, the Navajo Nation and Denmark, are being utilized for validation of the prediction model and to compare post-vaccine serotype emergence patterns between two different populations with markedly different underlying risk factors for diseases and underlying pneumococcal disease and colonization dynamics.

**Forum on Heart, Lung, and Sleep Disorders in AI/AN/NH Youth:**

In August 2016, NIH and the Indian Health Service held a forum in Bethesda, Maryland on heart, lung, and sleep (HLS) disorders in AI/AN/NH youth. AI/AN/NH communities are disproportionately exposed to and affected by health risk factors that contribute to mortality and morbidity due to cardiovascular, pulmonary, and sleep diseases. While evidence of epidemiological risk for HLS disorders exists for AI/AN/NH adults, little is known about these risks in AI/AN/NH youth. The forum examined HLS disorders in Native youth and developed recommendations for reducing HLS morbidity and mortality. The forum facilitated discussion of research gaps and identification of culturally-appropriate interventions to improve health outcomes. Half of the expert speakers included in the forum were Native researchers and community members. The forum can be viewed at <https://videocast.nih.gov/>.

**Functional Outcomes for AI/AN Children with Traumatic Brain Injury:**

AI/AN children have the highest traumatic brain injury (TBI)-related mortality in the United States. TBI affects about 27.3 per 100,000 in the AI/AN population vs. 18.4 per 100,000 for the total U.S. population. However, little is known the AI/AN children who survive TBI. Through a retrospective national cohort study, researchers analyzed data from 114 AI/AN and 7,267 White children between 6 months to 18 years of age who received inpatient TBI rehabilitation services. At discharge, patients were assessed on overall dependence or independence in mobility and cognitive ability. This research found that outcomes did not differ between AI/AN children and White children. In one small subgroup (children with loss of consciousness exceeding 24 hours), AI/AN children showed more issues with movement than White children. The findings also suggest that TBI outcomes for AI/AN children may have improved over the course of the study. AI/AN children who participated at the end of the study (2012) scored much higher on the

cognitive test than AI/AN children at the beginning of the study (2002). This difference was not seen in White children.

### **Genetic Trait in Pima Indians Linked to Increased Birth Weight and Elevated Risk for Type 2 Diabetes:**

A genetic analysis in Pima Indians has identified a rare mutation linked to elevated birth weight that is later associated with higher risk of type 2 diabetes. Pima Indians have among the highest rates of diabetes in the world. To understand the unique genetic risk factors among the Pima, and find ways to help alleviate this health disparity, NIH researchers examined the DNA sequences in and around a pair of genes thought to be involved in type 2 diabetes pathogenesis in 7,710 Pima study volunteers. They found that 3.3 percent of the participants had a previously uncharacterized variation in the gene *ABCC8*, which encodes a protein with a key role in regulating insulin secretion. The resulting genetic change, designated R1420H, was similar to known mutations that inactivate *ABCC8* and lead to a decline in insulin production, typically followed by type 2 diabetes.

### **Healthy Native Babies Project:**

The Healthy Native Babies Project is an extension of NIH's national Safe to Sleep® public education campaign which is based on recommendations from the American Academy of Pediatrics. AI/AN infants are at increased risk of sudden infant death syndrome and other types of sudden unexpected infant deaths. To help reduce these health disparities, NIH supports focused outreach in AI/AN communities to educate families, community health leaders, and other caregivers about safe infant sleep practices. In FY 2016, NIH supported trainings and exhibits at national and regional conferences of tribal members and provided free education materials to local community groups serving AI/AN populations. Online at: <https://www.nichd.nih.gov/sts/news/videos/healthynative/Pages/default.aspx>

### **Impact of Culturally Specific Danger Assessment on Safety, Mental Health, and Empowerment:**

Intimate partner violence (IPV) and homicides disproportionately affect immigrant, refugee, and Indigenous women. The Danger Assessment (DA) instrument was originally developed to assess risk of homicide, near lethality, and potentially lethal injury by an intimate partner. This study is developing and validating clinically-useful, culturally-specific versions of the DA to assess risk for severe IPV among immigrant, refugee, and Indigenous women. The study is also evaluating the impact of administering the culturally-specific DAs with safety planning/referral tailored to the level of danger, women's preferences, and culture in promoting women's empowerment, safety, and mental health. In FY 2016, this project received Institute Review Board approval, developed qualitative interviews and focus group protocols, partnered with community organizations like the National Indigenous Women's Resource Center to develop recruitment plans, developed resource documents for study participants, and began analyzing data from interviews and focus groups.

### **Increasing AI/AN Research Engagement through a Culturally Adapted Ethics Training:**

Many Native communities do not participate in the design, implementation, and dissemination of federally-funded research as much as other racial and ethnic groups. This project is working to address a significant barrier to community engaged research in AI/AN communities – the

absence of culturally-appropriate human subject research ethics education for community partners. By developing an ethics training curriculum for Indian Country, this project aims to help remove barriers to the participation of AI/AN communities in biomedical research. In FY 2016, the research team adapted a pre-existing training curriculum to include input from an expert panel; completed a beta test to assess the curriculum, knowledge questions, and outcome measures; revised materials based on feedback and psychometric analyses; and obtained Institute Review Board approval for a national randomized controlled trial.

**Indigenous HIV/AIDS Research Training Program:**

The Indigenous HIV/AIDS Research Training (IHART2) program brings together Native scholars capable of serving as principal investigators on NIH-funded HIV/AIDS related prevention and disparities research with Native populations. The program is based on the success of the Indigenous HIV/AIDS Research Training (IHART) program, the only Native-specific HIV/AIDS research training and mentorship program in the United States. IHART2 extends the reach of the original IHART program from a sole focus on AI/ AN to include Native Hawaiians and Samoans.

**Indigenous Pathways of Substance Use and Mental Health through Early Adulthood:**

This study addresses how early life patterns affect outcomes for alcohol and substance abuse disorders and mental health disorders among AI/AN young adults. Evidence from diverse tribal groups demonstrates early onset, high frequency substance use, with substantial rates of co-occurring mental disorders among Indigenous youth during adolescence. Cultural norms and contexts may translate into potentially unique developmental pathways, risks, and protective factors for substance use and mental health outcomes. The project links data from a panel study of Indigenous adolescents with 3 years of new data in early adulthood. In addition to exploring trajectories of these individuals, this study is working to examine culturally-appropriate definitions of wellbeing in early adulthood and document the prevalence and predictors of these positive outcomes. The results of this project may inform the timing of interventions and the risk/protective factors targeted by prevention programs in Indigenous communities.

**Institutional Development Award:**

The Institutional Development Award (IDeA) program broadens the geographic distribution of NIH funding for biomedical research. The program fosters health-related research and enhances the competitiveness of investigators at institutions located in states in which the aggregate success rate for applications to NIH has historically been low. The program also serves unique populations, such as rural and medically underserved communities in these states. The IDeA program consists of IDeA Networks of Biomedical Research Excellence (INBRE), IDeA Program Infrastructure for Clinical and Translational Research (IDeA-CTR), and Centers of Biomedical Research Excellence (COBRE). Grants supported by the IDeA program work with tribal nations and colleges on a variety of projects. For example, INBRE grants in Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, and South Dakota work with 16 different TCUs on building research capacity and infrastructure for projects ranging from building STEM education programs at the TCU to research on West Nile virus infection frequencies. The IDeA program also supports a Center of Biomedical Research Excellence in Montana focused on building research capacity and conducting research in Montana AI and rural communities. In FY 2016, the IDeA program supported two new IDeA CTRs with partnerships

with tribes and tribal organizations including the Cherokee Nation, Chickasaw Nation, Choctaw Nation, Central Oklahoma American Indian Health Council, Oklahoma Inner-City Tribal Health Board, Blackfeet Community College, Alaska Native Tribal Health Consortium, and South Central Foundation.

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

This project evaluates an after-school substance abuse prevention intervention, the Intertribal Talking Circle (ITC), aimed at 6th grade AI youth in three AI communities: Ojibwe/Chippewa in Minnesota, Choctaw in Oklahoma, and Lumbee in North Carolina. A community-based participatory research approach was used to culturally and technologically adapt the ITC. The project is evaluating how effective the ITC is in increasing AI youth self-reliance while decreasing AI youth substance use. In FY 2016, 110 AI students participated in the program and surveys of students were collected at 6 and 12 months. An adult training program will also train tribal personnel from the three regional tribes on how to implement the Intertribal Talking Circle intervention as a tribal program to support sustainability of this intervention.

**Motivational Interviewing and Culture for Urban American Indian Youth:**

This project is developing a new alcohol and other drug (AOD) intervention that operates at both the individual and community levels to reduce substance use among urban AI/AN youth. At the individual level, tradition-based healing is integrated with motivational interviewing (MI). The intervention at the community level integrates discussion of AOD use and AOD prevention among AI/AN youth into existing community wellness gatherings. During FY 2016, the project surveyed youth in Northern and Southern California and held bi-monthly community wellness gatherings. These gatherings are open to the entire AI/AN community.

**Multigenerational Household Intervention to Reduce Stroke and Cardiovascular Disease:**

This project is determining the effectiveness of a household-based motivational counseling intervention to reduce stroke risk in 360 households of Strong Heart Family Study participants. The Strong Heart Family Study is a population-based cohort of 4,549 AI individuals from 12 tribes in Arizona, Oklahoma, North Dakota, and South Dakota. The intervention is examining household-level improvements in stroke risk score for adults over 45 years old, as well as changes in modifiable risk factors like smoking, physical activity, diet, and blood pressure for all participants. In FY 2016, recruitment was completed at 2 of the study 3 sites and recruitment at the third site is expected in early FY 2017.

**Native American Research Centers for Health:**

The Native American Research for Health (NARCH) program is a trans-NIH collaboration with the Indian Health Service that supports collaborations between federally-recognized AI/AN tribes or tribal organizations and research-intensive academic institutions that support health research projects prioritized by tribal communities. The new NARCH funding opportunity announcement was issued in May 2016 and encourages competitive research linked to the health priorities of AI/AN organizations and health disparities; increasing the capacity of both AI/AN organizations and research-intensive institutions to reduce distrust by AI/AN communities and people toward research; and developing a cadre of AI/AN scientists and health professionals engaged in biomedical, clinical, behavioral, and health services research who will be competitive in securing NIH funding. In FY 2016, NIH and IHS supported 56 NARCH projects totaling



\$10.2 million dollars. NARCH projects range from STEM education to research on diabetes protocols, alcohol abstinence, childhood trauma, and effects of environmental exposures. Online at: <https://www.nigms.nih.gov/Research/CRCB/NARCH/Pages/default.aspx>.

**Native American Research Centers for Health Principal Investigator Meeting:**

NIH, in collaboration with IHS, held the annual Native American Research for Health (NARCH) Program Principal Investigator (PI) meeting in October 2016, in Long Beach, CA. The purpose of the meeting was to provide updates on the NARCH-funded research projects and student and faculty development projects with a secondary goal of creating collaborative efforts across NARCH programs. The NARCH PIs were also provided information on current NIH funding opportunities applicable to the AI/AN communities, changes in NARCH administration oversight, and NIH intramural research opportunities for students and young investigators.

**Native Elder Research Center's AI/AN Alzheimer's Disease Research Network:**

The Resource Centers for Minority Aging Research (RCMAR) program is a national initiative to improve the health of minority Americans through scholarship, better public health interventions, and by fostering and mentoring the next generation of minority scholars. The Native Elder Research Center (NERC) is a RCMAR devoted to Native Elder health. The NERC focuses on health and aging in older AI/AN populations and provides training for the next generation of diverse scholars through a variety of activities. Recently, NIH provided new funding to the NERC to support an Alzheimer's disease (AD) research network. This project unites NERC leadership with investigators studying dementia in the Strong Heart Study and affiliated Alzheimer's Disease centers. It also brings in investigators and data from research funded by the Agency for Healthcare Research and Quality and the Patient-Centered Outcomes Research Institute, which is creating infrastructure to coordinate patient-level health data from tribal and Indian Health Service care settings. The Alzheimer's Disease Research Network will recruit junior AI/AN investigators to develop AD-relevant research questions that can be pursued using this database and will support workgroups to guide subsequent analyses and resulting publications.

**Native Voices: Native Peoples' Concepts of Health and Illness Traveling Exhibition:**

In FY 2016, NIH completed the first year of the Native Voices: Native Concepts of Health & Illness traveling exhibition at 104 sites around the United States, including approximately 20 American Indian venues. The *Native Voices* traveling exhibition includes six interactive iPads with stands and six informative banners on the themes of Native Healing, Culture, Community, Tradition, and the provision of both Traditional and Western medical modalities to Native Peoples. The iPads include several hundred video interview segments with American Indian, Alaska Native, and Native Hawaiian health practitioners and leaders; photos of Native healing and ceremonial objects and practices; and a timeline of key events and milestones in the history of Native Peoples and their health and healing activities. During FY 2016, the traveling exhibition visited sites including: Leech Lake Tribal College, Fort Peck Community College, Caddo Nation of Oklahoma, Comanche Nation College, Sac and Fox Nation, and Mid-America All-Indian Center. Exhibition venues were encouraged to reach out to Native students and communities to advertise the exhibit. One university conducted outreach by providing a mini-exhibition of a single *Native Voices* iPad and poster to each of the four Tribal College libraries in New Mexico: Institute of American Indian Arts, Diné Navajo Tribal College, Navajo Technical



University, and Southwestern Indian Polytechnic Institute. Online at:  
<https://www.nlm.nih.gov/nativevoices/>.

### **NIH Intensive Course in Genomics for Teachers:**

In August 2016, NIH held its annual Short Course in Genomics in Bethesda, Maryland. This three-day course offered middle and high school teachers, community college faculty, and Tribal College faculty the opportunity to hear lectures and receive teaching resources from leading NIH researchers, clinicians, and staff. Participants also discussed ways to incorporate genomics content into the classroom and participated in tours of NIH facilities. Topics included undiagnosed and rare diseases, cancer genomics, ethical issues in genomics research, and health disparities, among others. This year, seven Tribal College faculty participated in the course. Following the three-day course, a meeting was held with the Tribal College faculty to discuss the possibility of an internship program for AI/AN students.

### **NIH Visit Week:**

NIH Visit Week exposes AI/AN students to biomedical research and health career opportunities. The 2016 NIH Visit Week program took place during the week of July 11<sup>th</sup>, with 10 students attending from Tribal Colleges, undergraduate institutions, and research-intensive universities. The students participated in science career workshops, hands-on laboratory activities, as well as networking seminars and events. Students were able to network with and be mentored by NIH staff, including program administration staff, scientific researchers, and clinical research staff. The students also took part in a one-day NIH Graduate Student event, where they were given the opportunity to talk with over 200 different colleges and universities regarding graduate and professional schools. Visit Week included lunch with members of the NIH chapter of the Society for Advancement of Chicanos and Native Americans in Science as well as the Trans-NIH AI/AN Research special interest group.

### **Oral Health Status in Native Head Start Children:**

Results from a clinical trial being conducted by the NIH-supported Center for Native Oral Health Research show that poor oral health remains a major problem for AI/AN children, in particular severe dental decay called Early Childhood Caries. This clinical trial used Community Oral Health Specialists from a Southwest American Indian reservation to deliver health promotion and dental disease prevention services to children up to age 5 enrolled at the tribal Head Start programs. During enrollment in the trial, more than 85 percent of the children in the study had decay and decay was almost universal three years later. The trial did not find any benefit for the prevention program, possibly because dental disease was too severe and established by the time the children in the study began attending Head Start.

### **Partnership to Establish Tribally-Owned and Operated Biobank:**

As part of the Stanford Precision Health for Ethnic and Racial Equality (SPHERE) center, NIH is supporting the development of a tribally-owned and operated biobank in the Northern Plains region, in partnership with the Cheyenne River Sioux Tribe. Beginning in FY 2016, this project is working to serve as a conduit for education on the benefits of precision medicine and big data science in the Lakota Sioux community. The SPHERE Center is also supporting research looking for rheumatoid arthritis biomarkers among members of the Lakota Sioux.

**Partnerships to Prevent Childhood Obesity on the Flathead Indian Reservation:**

Approximately 57 percent of the children and adolescents living on five rural Indian reservations in Montana are overweight or obese, and no obesity prevention trial, to date, has been successful in preventing childhood obesity in this high-risk population. This project capitalizes on the dual government and health care services systems on the Flathead Indian Reservation to build capacity and develop partnerships aimed at developing and testing culturally appropriate intervention strategies that will achieve sustainable childhood obesity reduction. A shared vision, community outreach, and education are key components of the project. In FY 2016, community readiness interviews were completed in five communities on the Flathead Reservation. The results of this study will provide action steps, partnerships, communication between communities, and evaluation methods for similar projects.

**Preventing HIV among American Indians through the Treatment of PTSD and Substance Use:**

Untreated post-traumatic stress disorder (PTSD) elevates risk of alcohol and drug dependence, which in turn elevates risk of HIV sexual-risk behavior. Few HIV prevention interventions address risk factors such as trauma exposure, mental health, or substance use disorders. American Indian communities are at disproportionate risk for untreated PTSD, substance use disorder, and HIV risk. Building on an 8-year community-based participatory research partnership in collaboration with a tribal nation, this study is implementing a randomized comparative effectiveness trial to evaluate prevention of HIV sexual-risk behavior by directly addressing PTSD and/or substance use. Beginning in FY 2016, this research will examine whether a PTSD-focused intervention or substance use-focused intervention is most effective to prevent HIV sexual-risk behavior. Identifying evidence-based interventions that can be delivered in a time efficient manner in resource-limited areas could significantly impact health in AI communities.

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

Alcohol use disorder and suicide are interrelated public health issues among AN youth. The overarching goal of this project is to test the effectiveness of the Qungasvik (a Yup'ik word meaning `toolbox') intervention, aimed at reducing the incidence of alcohol use disorder and suicide in Yup'ik youth. To date, key outcomes include implementation of community and tribal leadership consultative models, an ethics decision on assessments of suicidal ideation in the aftermath of a cluster of youth suicides, development of social network measures, completion of a digital Qungasvik intervention model, and production of several videos for dissemination of the Qungasvik model. The Qungasvik intervention enhances protective factors through activities grounded in Yup'ik cultural practices and values, and helps communities identify effective prevention strategies for suicide and alcohol use disorder risk among youth.

**Racial/Ethnic and Socioeconomic Differences Impact Disparities in Infant Mortality Rates:**

This NIH-supported research examined differences in infant mortality rates between White, Black, Mexican, Puerto Rican, Asian, and American Indian mothers using secondary data analysis. Gaps in infant mortality between most groups were associated with economic factors, including maternal marital status, education, and age. These factors were also strong predictors of income and poverty, according to U.S. Census data. For Black and Puerto Rican infants, low

birthweight appeared to impact likelihood of infant mortality. However, the gap between American Indian and White infants occurred almost exclusively at high birthweights.

### **Reducing the Incidence of Suicide in Indigenous Groups – Strengths United through Networks (RISING SUN):**

The Reducing the Incidence of Suicide in Indigenous Groups – Strengths United through Networks (RISING SUN) initiative is working to create a toolkit with outcomes and measures to help evaluate suicide prevention interventions among indigenous communities across the circumpolar North. The project is overseen by the Sustainable Development Working Group of the Arctic Council, an intergovernmental forum of the eight Arctic countries and six international organizations that represent Arctic indigenous peoples. During the 2015-2017 United States Chairmanship of the Arctic Council, NIH serves as the technical lead on this project, in partnership with the Substance Abuse and Mental Health Services Administration, the Centers for Disease Control and Prevention, and U.S. Department of State. The shared knowledge generated from RISING SUN is anticipated to aid health workers in better serving communities, and help policy-makers measure progress, evaluate interventions, and identify challenges to implementation. During the Chairmanship of the Arctic Council, the RISING SUN initiative has convened two regional workshops in which diverse stakeholders including Alaska Native youth and tribal elders, advocates, clinicians, local community members, researchers, survivors, and federal and regional government officials met to discuss approaches for improving mental wellbeing and reducing suicide in the Arctic. An NIH team has also led a consensus-building and priority-setting activity to identify high-priority outcomes for suicide prevention efforts among Arctic indigenous communities. Final reporting is expected to be completed by January 2017. Online at: <https://www.nimh.nih.gov/about/organization/gmh/risingsun/index.shtml>

### **Science Education Partnership Award:**

The Science Education Partnership Award (SEPA) program was established in 1991 to encourage underrepresented minorities and students from rural communities, including American Indians and Alaska Natives, to consider careers in basic or clinical research. SEPA programs are also designed to improve life science literacy across the United States. SEPA supports the development of STEM resources for pre-K to grade 12 students and teachers. Many SEPA-funded projects target health disparities. A SEPA project in Nebraska provides comics, games, and activities about the world of viruses and the biology of humans to K-8 students in ten tribal schools as well as online (<http://worldofviruses.unl.edu>). Salish Kootenai College in Montana has received SEPA funding to provide professional development training to teachers, enhancing the science education that students receive with the intention of increasing the number of AI/AN students interested in pursuing careers in biomedical research. Online at: [https://dpcpsi.nih.gov/orip/ose/sepa/science\\_education\\_partnership\\_awards\\_index](https://dpcpsi.nih.gov/orip/ose/sepa/science_education_partnership_awards_index).

### **Short-Term Research Experience Program for Underrepresented Persons:**

The Short-Term Research Experience Program for Underrepresented Persons (STEP-UP) program provides high school and undergraduate students with the opportunity to participate in cutting-edge research both in biomedical and social science over the summer. At the end of the summer, students travel to the campus of the National Institutes of Health to present their research findings. A key component of the program is that the students participate in research projects near where they live so there is still an active connection between the student, the

community, and research community. AI/AN individuals are underrepresented in the biomedical research workforce. To address these disparities, the STEP-UP program actively recruits AI/AN students to participate in summer research with a focus on diabetes, digestive, and kidney Diseases areas. STEP-UP funds a coordinating center in the Southwestern United States that is focused on recruitment, outreach, and forging connections with Tribes throughout the country. In FY 2016, 11 AI/AN students participated in the summer research program. For example, one student examined the impact of food practices on health in the Menominee Indian Nation. Additionally, several of the research projects abstracts were recently published on an online journal, Health Disparities Research and Practice, providing an opportunity for the students to highlight their work on a national level. Online at: <http://digitalscholarship.unlv.edu/jhdrp/>.

### **Strategies for Preventing Underage Drinking and Other Substance Use in American Indian Tribal Communities:**

The project consists of community and individually-based interventions designed to address underage alcohol and other drug use and abuse among American Indian youth residing in and nearby the nine contiguous Indian reservations in rural San Diego County. This community-based environmental prevention program is focused on reducing underage access to alcohol and tobacco through a reward and reminder program for off-premise retail clerks and tailoring, implementing and evaluating a community mobilization and awareness intervention aimed at reducing the social availability of alcohol and other drugs from adults, including family members. The individual level component is a culturally-tailored motivational interviewing brief intervention to reduce demand for alcohol and other drugs among AI youth 13-20 years of age.

### ***Streptococcus mutans* and Dental Caries among American Indian Children:**

AI children suffer from the highest levels of severe early childhood caries in the United States. Children typically acquire the caries-causing bacteria, *Streptococcus mutans*, from their mothers and early acquisition is often associated with higher levels of tooth decay. This NIH-funded study followed babies from birth to five years of age and examined in detail how *S. mutans* is transmitted from mother to child in a Northern Plains tribal community. Results from three studies demonstrated that *S. mutans* colonization occurred by 16 months of age in 58 percent of the children and was associated with more severe caries. The data also showed that AI children's primary teeth erupt earlier than children in other health disparities populations. By 36 months of age, 80 percent of the children had dental decay that needed to be treated. The study identified several significant risk factors for dental decay in these children, including consuming beverages with added sugar, younger maternal age, greater number of people in the household, and higher maternal level of dental disease. Early tooth eruption may contribute to the higher caries rates of children in the study, and suggests the need for early interventions to prevent severe early childhood caries.

### **Strong Heart Study:**

The Strong Heart Study is the largest multi-center longitudinal study of cardiovascular disease (CVD) among AI individuals. The goal of the study is to improve health in the areas of CVD and diabetes, with the use of genetics as one of the approaches. The partners in this study include 12 American Indian tribes and communities in three geographic areas: an area near Phoenix, Arizona, the southwestern area of Oklahoma, and western and central North and South Dakota. The initial data collection in this study has been completed and, in FY 2016, the study continues

to monitor the morbidity and mortality of the original cohort (4,549 participants) and the family cohort (3,776 participants) over time. Participants who consented are now also being followed for the study of cancer, liver disease, and inflammation. Online at: <http://strongheart.ouhsc.edu/>.

### **Substance Abuse Prevention Campaign for American Indian Youth:**

This study is adapting an existing substance abuse prevention campaign (Be under Your Own Influence) to incorporate campaign messages that are culturally acceptable with AI populations. In FY 2016, significant input has been gathered from tribal members, including youth, teachers, parents, elders, and other community members through community advisory meetings and youth focus groups. When this project is complete, the goal is to provide a complete toolkit that can be shared with other reservation-based AI youth and schools. This toolkit will include components that can incorporate flexibility and creativity in their delivery in each new setting.

### **Summer Program in the Neurological Sciences:**

The annual NINDS Summer Program in the Neurological Sciences provides academically talented and diverse high school, undergraduate, graduate, and medical students with a stimulating and rewarding research experience and encourages the pursuit of advanced education and future careers in neurological science research. This program targets students from diverse backgrounds and has achieved substantial success recruiting AI/AN students by developing relationships with schools and tribal councils and through extended outreach and visits to areas densely populated by Native students. The director of the program has established relationships with Red Cloud High School on the Pine Ridge Reservation in South Dakota, and St. Michael Indian High School, a school serving the Navajo population in Arizona and New Mexico. The institute hosted 16 Native students during the 2016 Program, including eight Oglala Sioux, two Rosebud Sioux Lakota, four Yakama, one student from the Cedarville Band of Piscataway, and one student from the Pauma Band of Luiseno. Students from the class of 2016 were also involved in activities with the NIH Native Scholars group, who provided cultural support, research poster workshops, and weekly tutoring in college math and chemistry. In addition, the students were invited to participate in the 2016 National UNITY Conference. Two students met with Secretary Burwell to discuss issues and challenges related to outreach to Native communities. Since 2007, NIH has supported 46 awards for AI/AN students (some students have gone through the program twice), and 14 students have gone on to present their data at scientific meetings. Most of the AI/AN participants have been tracked; of those, all but five remain in scientific fields. NIH plans to continue this program and the associated outreach with AI/AN communities. In addition, NIH continues efforts to maintain relationships with the alumni in order to facilitate their potential future participation in NIH-funded neuroscience training and development programs. Online at: [http://www.ninds.nih.gov/jobs\\_and\\_training/summer/](http://www.ninds.nih.gov/jobs_and_training/summer/).

### **Technology Innovations for Supporting Health in Alaska Native People:**

This study is evaluating the efficacy of two culturally-tailored, technology-mediated disease prevention interventions for supporting change in multiple risk behaviors in rural AN men and women. These interventions are informed by the research team's fieldwork over the past 6 years in rural Alaska and built on continued community partnerships with Tribes. The interventions are tailored to AN health needs and values to target 5 of the American Heart Association's 7 Strategic Impact Goals for 2020. One intervention focuses on tobacco use and physical activity; the other focuses on hypertension and hypercholesterolemia. During FY 2016, the research team

developed collaborative relationships with local clinic staff and many community groups. The project also identified best practices for recruitment in various communities and began recruitment for both interventions.

### **Tó Litso, the Water is Yellow: Investigating Short Term Exposure and Risk Perception of Navajo Communities to the Gold King Mine Toxic Spill:**

In FY 2016, NIH supported research on the Gold King Mine toxic spill to investigate the short term exposure effects of lead and arsenic in the water, in order to understand the potential long-term health risks from the Gold King Mine spill and develop mitigation strategies. This research is also evaluating the risk perception of people in Navajo communities dependent on the San Juan River. On August 5, 2015, three million gallons of acid mine drainage was accidentally released from the Gold King Mine spill, eventually reaching the San Juan River. The environmental contamination from mine spills severely impacts Native communities, due to both subsistence livelihoods and spiritual and cultural beliefs connected to the natural environment. This results in unique exposure pathways and may cause greater health risks. In FY 2016, preliminary results were disseminated from analysis of the Gold King Mine data to the Navajo Nation Environmental Protection Agency, the U.S. EPA Region 9 staff, and to the Navajo Nation.

### **Tools to Address Prostate Cancer Disparities in Minority Men:**

Prostate cancer disproportionately affects African American and AI/AN men, and once diagnosed, these groups are less likely to receive patient-centered prostate cancer care than non-Hispanic White men. This randomized clinical trial is testing two tools to help men make decisions about prostate cancer treatments. Prostate Choice is a tablet-based tool to help men tailor treatment choices based on disease risk, life expectancy, and current sexual and urinary function. Knowing Your Options is a website with comprehensive educational materials designed for use prior to visits with specialists. Each tool is being tested alone and in combination and compared to usual care in improving men's knowledge of treatment options and cancer-related quality of life in White, African American, and AI/AN men.

### **Trans-NIH American Indian and Alaska Native Health Communications and Information Work Group:**

The Trans-NIH AI/AN Health Communications and Information Work Group, in partnership with IHS and the Administration on Aging's Administration for Community Living, produced an electronic newsletter, [Honoring Health: Resources for American Indians and Alaska Natives](#) to increase awareness of health information and resources from NIH and other Federal agencies. The e-newsletter aims to reach IHS Community Health Workers and ACL Title VI grantees, as well as AI/AN communities, and it is publicly available online. Each issue features a different health topic of interest to Native communities. The Work Group issued three newsletters in FY 2016 on diabetes, mental health, and dental health. Online at: [https://www.niams.nih.gov/News\\_and\\_Events/AIAN\\_Honoring\\_Health/](https://www.niams.nih.gov/News_and_Events/AIAN_Honoring_Health/).

### **Trans-NIH American Indian/Alaska Native/Native Hawaiian Research Interest Group:**

The Trans-NIH American Indian/Alaska Native/Native Hawaiian Research Interest Group convened on a monthly basis to share current research priorities and innovative ideas for facilitating CBPR, as well as highlight and discuss challenges with advancing research in Native



communities. IHS colleagues regularly participated in the group with NIH members and discussed best practices and lessons learned about outreach activities for providing health care in several AI communities.

**Trans-NIH Conference for Native Youth Interested in Biomedical Research Careers:**

On July 7-8, 2016, NIH hosted a conference for the National Native American Youth Initiative in Biomedical Research on the NIH campus in Bethesda, Maryland, in partnership with the Office of Minority Health. The conference serves as an opportunity to showcase and introduce biomedical research to high school students who come from communities that are most likely to be underrepresented in biomedical careers, such as those from AI/AN communities. NIH partnered with the Association of American Indian Physicians for this initiative to identify 25 students between the ages of 16-18 from across the United States who have an interest in pursuing a career in healthcare. Among other activities, students took a tour of NIH's Vaccine Research Center and attended a lecture on the NIH response to the Zika virus outbreak.

**Tribal Colleges and Universities Behavior Wellness Study:**

The TCU-BeWell project has developed and is implementing a culturally-contextualized version of an alcohol prevention intervention at TCUs. This research is examining whether a culturally-contextualized adaptation of the Screening and Brief Intervention, developed in conjunction with TCU partners, will have better results in reducing hazardous or harmful drinking and alcohol-related negative consequences, as well as improve academic outcomes. It is anticipated that the intervention will have a significantly greater effect at TCUs that also receive a policy intervention to move them from a zero-tolerance to harm reduction stances and improve capacity to integrate services for improved referral and treatment for high-risk TCU students. This project has surveyed 3,175 participants, providing epidemiological data on the largest sample of Native college-aged individuals to date. In FY 2016, longitudinal surveys at three and six months were administered and campus exhibits were introduced at three sites.

**United and Southern Eastern Tribes Women's Health Project:**

In FY 2016, NIH continued its partnership with the Tribal Epidemiology Center, United and Southern Eastern Tribes, Inc. (USET). USET is a strategic partner with NIH in increasing the awareness and utilization NIH health resources and addressing long term goals of improving health literacy, informing citizens, and reducing health disparities among vulnerable populations. NIH funded an information dissemination and health literacy outreach project targeting women as the main information gatherer and health decision influencer in the family. The "Indian Peer-to-Peer Family Curriculum" project incorporates traditional parenting methods to improve pre- and post-natal care and strengthen the maternal role in the Tribal community. The Florida State University Home Visiting Curriculum, a nationally recognized, research-based, practice-informed curriculum, was adapted to support traditional AI/AN parenting styles. USET worked with NIH to develop training materials, online search strategies, and demonstrations of NIH online resources. Support groups plan to incorporate use of NIH online training materials to teach mothers and other family members how to access important information such as drug interactions, medication side effects, and various drug categories to ensure safe medication use while pregnant, nursing, and/or lactating.

**Washington University Center for Diabetes Translation Research:**

This Center emphasizes transdisciplinary collaborations, catalyzes new ideas, and supports investigators through research cores, including the Research Partnerships with American Indian/Alaska Native Communities Core through the National Congress of American Indians, which increases the capacity of researchers to engage in translational research with AI/AN communities. In FY 2016, the Center successfully re-competed for funding. Recent Center-supported research found that successful treatment with a diabetes drug (HbA1c less than 6.3 percent) was sufficient to predict whether blood glucose would remain in good control for at least 48 months in a young person with type 2 diabetes. This clinical trial included a significant number of AI/AN participants and may help to inform treatment options for AI/AN youth with type 2 diabetes. Online at: <http://cdtr.wustl.edu/index.html>.

**Worker Training Program:**

The Worker Training Program (WTP) funds a national network of over 100 non-profit safety and health training organizations to provide training to workers who handle hazardous materials, hazardous waste, or are involved in emergency response to hazardous materials incidents. Through its awardees, the WTP has trained over 1,500 AI individuals, including tribal employees of natural resource, law enforcement, emergency medical, fire service, and public works agencies. In FY 2016, the Alabama Fire College (AFC) Workplace Safety Training Program (WST) along with Native American Fish and Wildlife Society and the United South and Eastern Tribes worked to promote training to tribal emergency response personnel. During this period, AFC trained approximately 464 American Indians from 31 tribes through direct and peer training activities in hazmat operations and responder training, clandestine lab awareness, and incident command. NIH also funded the Western Region Universities Consortium (WRUC). WRUC provided training and technical assistance, in conjunction with the EPA Region 10 Tribal Office, on emergency response, hazardous materials operations, transport, and hazard communication. One example of this collaboration is training provided in remote Alaskan villages on topics such as general construction safety, confined space entry and rescue, and several levels of hazardous waste operations. Approximately 500 workers from the Navajo Nation, Hopi Nation, White Mountain Apache Tribe, Lummi Nation, Kerauwak Native Corporation, Native Village of White Mountain, Native Village of Elim, Native Village of St. Michaels, Tribal Solid Waste Advisory Network, Tribes in Washington (Skokomish, Colville), Oregon (Confederated Tribes of Warm Springs) and Idaho (Nez Perce) received training. Additional information about the NIEHS WTP is available online at: <http://www.niehs.nih.gov/careers/hazmat/index.cfm>.

**Workshop on the Value of Tribal Ecological Knowledge for Environmental Health and Biomedical Research:**

In FY 2016, NIH led a workshop that was organized by representatives of seven tribal communities in coordination with NIH, Indian Health Service, Smithsonian, and the Centers for Disease Control and Prevention. The goals of the workshop were to explore ways to improve trust in academic-tribal research; to identify methods for incorporating community-acquired data and local tribal ecological knowledge (TEK) into environmental health and biomedical research studies; to consider ethical approaches for tribal specific data collection; and to build capacity to respond to long term and immediate disaster events. Tribal affiliations of speakers included Mohawk, Blackfeet, Cherokee, Chippewa, Confederated Salish and Kootenai, Cree, Crow, Gros Ventre, Hidatsa, Inupiaq, Mandan, Navajo, Pembina, St. Lawrence Island Yupik, Swinomish,



and Taíno. Outcomes from this workshop included presentation of the TEK workshop recommendations to the NIH Tribal Consultation Advisory Committee in February, 2016, and an invited commentary submitted to Environmental Health Perspectives in July 2016. In FY 2017 a review article is expected, as well as planning for future workshops in 2017 to explore the impact of climate change on tribal elderly and other health disparate populations. Online at: [https://www.niehs.nih.gov/about/events/pastmtg/2015/tek\\_workshop/index.cfm](https://www.niehs.nih.gov/about/events/pastmtg/2015/tek_workshop/index.cfm).

## List of Acronyms

ACL	<a href="#"><u>Administration for Community Living</u></a>
AI	American Indian
AN	Alaska Native
CBPR	Community-based Participatory Research
CDC	<a href="#"><u>Centers for Disease Control and Prevention</u></a>
EPA	<a href="#"><u>United States Environmental Protection Agency</u></a>
FY	Fiscal Year (October 1 – September 30)
IHS	<a href="#"><u>Indian Health Service</u></a>
HHS	<a href="#"><u>Department of Health and Human Services</u></a>
NH	Native Hawaiian
NIH	<a href="#"><u>National Institutes of Health</u></a>
OMB	<a href="#"><u>Office of Management and Budget</u></a>
STEM	Science, Technology, Engineering and Math
TCU	Tribal Colleges and Universities

## NIH Institutes and Centers

FIC	<a href="#"><u>Fogarty International Center for Advanced Study in the Health Sciences</u></a>
NCATS	<a href="#"><u>National Center for Advancing Translational Sciences</u></a>
NCCIH	<a href="#"><u>National Center for Complementary and Integrative Health</u></a>
NCI	<a href="#"><u>National Cancer Institute</u></a>
NEI	<a href="#"><u>National Eye Institute</u></a>
NHLBI	<a href="#"><u>National Heart, Lung, and Blood Institute</u></a>
NHGRI	<a href="#"><u>National Human Genome Research Institute</u></a>

NIA	<a href="#"><u>National Institute on Aging</u></a>
NIAAA	<a href="#"><u>National Institute on Alcohol Abuse and Alcoholism</u></a>
NIAID	<a href="#"><u>National Institute of Allergy and Infectious Diseases</u></a>
NIAMS	<a href="#"><u>National Institute of Arthritis and Musculoskeletal and Skin Diseases</u></a>
NIBIB	<a href="#"><u>National Institute of Biomedical Imaging and Bioengineering</u></a>
NICHHD	<a href="#"><u><i>Eunice Kennedy Shriver</i> National Institute of Child Health and Human Development</u></a>
NIDCD	<a href="#"><u>National Institute on Deafness and Other Communication Disorders</u></a>
NIDCR	<a href="#"><u>National Institute of Dental and Craniofacial Research</u></a>
NIDDK	<a href="#"><u>National Institute of Diabetes and Digestive and Kidney Diseases</u></a>
NIDA	<a href="#"><u>National Institute on Drug Abuse</u></a>
NIEHS	<a href="#"><u>National Institute of Environmental Health Sciences</u></a>
NIGMS	<a href="#"><u>National Institute of General Medical Sciences</u></a>
NIMH	<a href="#"><u>National Institute of Mental Health</u></a>
NIMHD	<a href="#"><u>National Institute on Minority Health and Health Disparities</u></a>
NINDS	<a href="#"><u>National Institute of Neurological Disorders and Stroke</u></a>
NINR	<a href="#"><u>National Institute of Nursing Research</u></a>
NLM	<a href="#"><u>National Library of Medicine</u></a>