



National Institute of Environmental Health Sciences
Your Environment. Your Health.

Overview of NIH and Federal Tribal Research and Programs



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What is Tribal Ecological Knowledge?

- A small subset of Indigenous Tribal Knowledge
- Variety of definitions
 - NIEHS: focus on impact of environmental factors
 - Tribal communities include consideration of health of entire ecosystem, resource management, cultural factors, oral tradition
- Highlights
 - NIEHS support for tribal research
 - Major programs by other ICs, EPA, IHS

POSTERS!

NIH Commitment to Tribal Research

- Translational Research addressing Health Disparities and Disproportionate impacts
- Social Determinants of Health
 - Contribute to Health Disparities, including Environmental Health Disparities
 - Disproportionate and Ongoing Exposures
- Multiple Effective Programs
 - Support Research with Tribal Communities
 - Health Disparities, Drug and Alcohol Abuse, Mental Health, Cancer, Diabetes, Environmental Health, etc.
- Tribal Consultation Advisory Committee
 - First Meeting – Sept, 2015

Partnerships

- Strategic Goals and Commitment to Tribal Research at NIEHS
- Tribal Programs at NIH – TCAC, NIGMS, NCI, NIDDK and NIMHD
- EPA Tribal Programs
- IHS Research and Services
- HHS OMH; FDA OMH; BIA; NRC, NCAIPRC
- Our Goals for the Workshop



Relation to NIEHS Strategic Plan

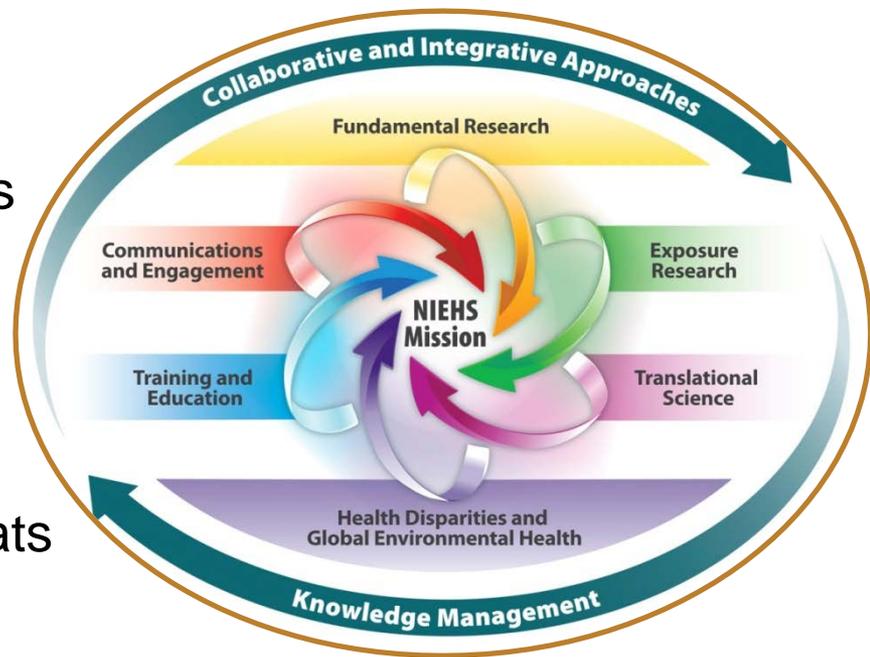
In 2012 NIEHS adopted a five-year strategic plan that includes 6 of 11 goals relevant to research with Native Americans.

Goal 2 – individual susceptibility across the life span

Goal 4 - the effect of combined environmental exposures on human health

Goal 5 – emerging environmental threats to human health

Goal 8 – enhance teaching of EHS to increase scientific literacy



Relation to NIEHS Strategic Plan (cont'd)

The strongest relation between NIEHS strategic goals and NA research, however, are Goals 6 and 11:

Goal 6: Establish an environmental health disparities research agenda

Goal 11: Promote bidirectional communication and collaboration between researchers and stakeholders, e.g., policy-makers, clinicians, intervention and prevention practitioners, and the public, in order to advance research translation in the environmental health sciences.

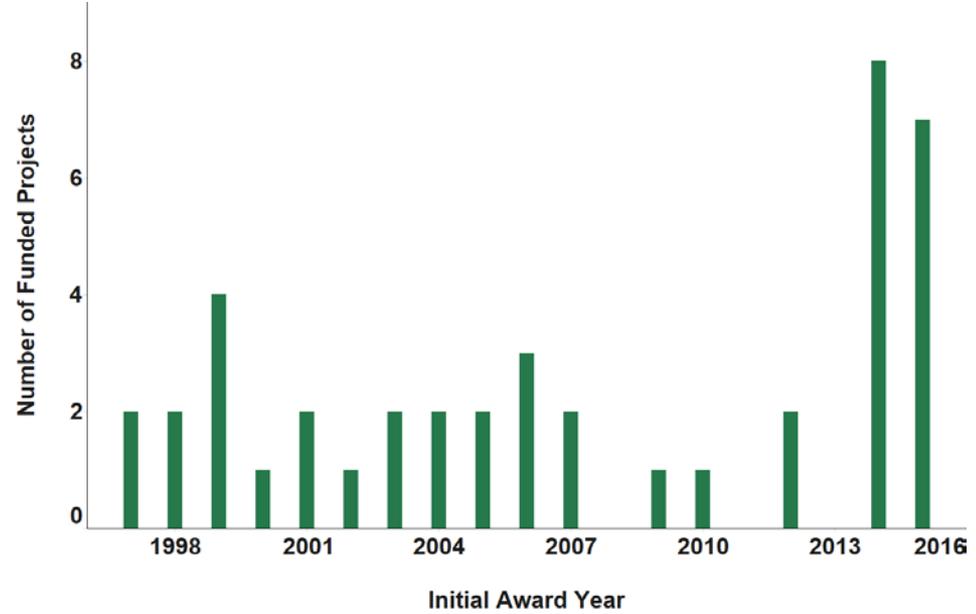


Strategic Goals and Commitment to Tribal Research at NIEHS

Environmental Exposures on Tribal Lands

- arsenic
- radioactive materials (e.g., uranium)
- metals (e.g., lead, manganese, chromium, cadmium, copper, and zinc);
- dioxins and polychlorinated biphenyls (PCBs)
- persistent organic pollutants (POPs)
- PBDEs
- access to healthy and traditional foods
- particulate matter (e.g., PM2.5 and PM10)
- pesticides and other agricultural pollutants

Extramural Research Projects 1997-2015

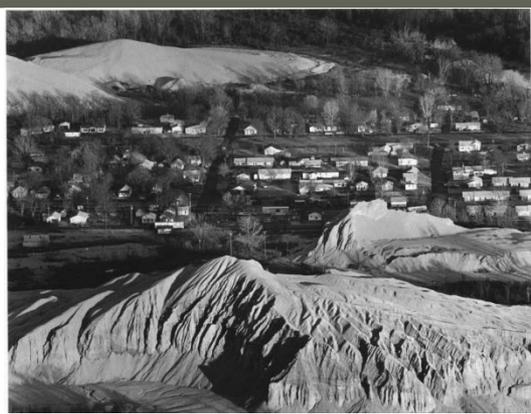




Blackfeet in digital storytelling class to raise awareness about fracking



Elder Annie Alowa at a Former Defense Site, St Lawrence Island, Yupik community



Native Americans living near Superfund site Tar Creek Oklahoma

Environmental factors affecting tribal communities



General Motors Foundry Cornwall Island



Navajo, Hopi, Crow, and Mohawk concerns about water quality on tribal lands



NIH Tribal Consultation Advisory Committee (TCAC)

- **Purpose:**

- An established, recurring venue for Tribal representatives to provide meaningful, timely input into the development of relevant NIH policies, programs, and priorities
- Ensure that NIH research findings, policies, and programs are disseminated to Tribal nations

- **17 Delegates**

- 12 representing IHS Areas
- 5 National At-Large Members

- **TCAC Meetings:**

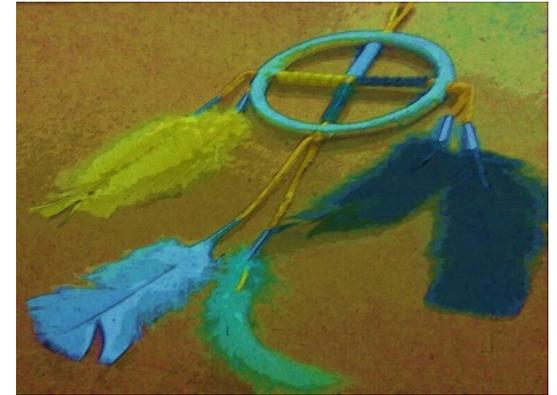
- First: September 29-30, 2015
- Second: February 2016 (anticipated)



NIGMS Programs Supporting Research in and by the AI/AN Community

Native American Research Centers for Health (NARCH)

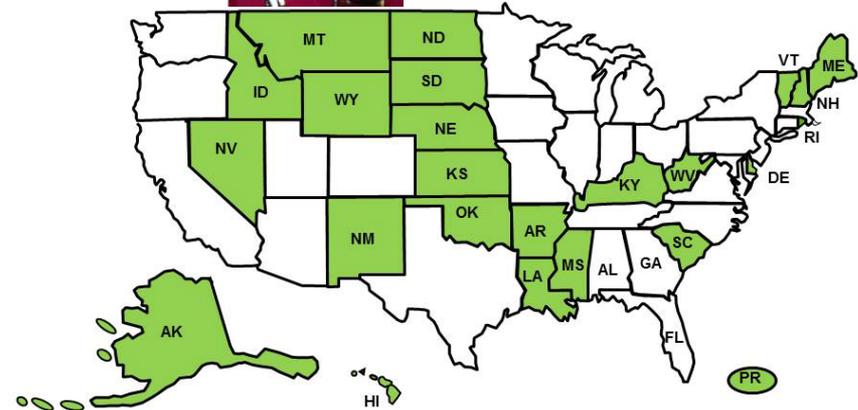
- Supports collaborations between federally recognized AI/AN tribes/tribal organizations and research intensive academic institutions.
- Supports health research projects prioritized by the tribal communities.
- Supports the development of AI/AN scientists and health professionals engaged in biomedical, clinical, and behavioral research.
- Supports projects to increase capacity of both AI/AN organizations and research-intensive institutions to allow for sustainability in health research.



NIGMS Programs (cont'd)

IDeA Network of Biomedical Research Excellence (INBRE)

- INBRE grants work to build and increase research capacity by supporting faculty, fellows and students at participating institutions.
- Currently over 20 Tribal Community Colleges are networked with supported INBRE grants to build research capacity and infrastructure.





- Multiple NIH Institutes and Centers involved
 - NCI, NIDA, NIAAA, NIEHS, NIMH, NIDCR, NINR, NIMHD, and OBSSR

Program Goals:

- Focuses on health promotion and disease prevention
- Supports research to adapt, develop, and test interventions in Native American populations to improve risk profiles at individual, familial, and community levels
- Has been in existence for 4 years



(cont.)

- Requires researchers to partner with communities to:
 - Incorporate concerns and issues of the community
 - Adopt methodologies that are relevant to NA populations
 - Implement appropriate study designs to address the complex and multi-layered causes of health inequities
- May include Tribal-Researcher Agreement that recognizes tribal governance
- No requirement for previous pilot studies/data from current community/tribe
- Generalization is NOT a requirement – but can talk about lessons learned



- **NIDDK participates in trans-NIH Native American (NA) Programs such as NARCH, TCAC, etc.**
- **Diversification of the biomedical research workforce – NIDDK programs specifically targeting recruitment of Native Americans include:**
 - Diabetes Education in Tribal Schools (DETS)
 - Short Term Research Experience in under represented persons (STEP UP)
 - Diversity in Summer Research Training Program (DSRTP)
 - Travel awards to undergraduates to attend the annual conference of the Association of American Indian Physicians
 - Diversity F31 program for PhD candidates; and
 - Research Supplements to Promote Diversity program





Numerous Research projects aimed at improving health in the Native American (AI) communities:

- Genetics of Obesity in Yup'ik Eskimos
- Assessing genetic risk factors for type 2 diabetes and obesity in AI
- Assessing Epigenetic Mechanisms as Risk Factors for Type 2 Diabetes in Pima
- Neural Correlates of Food Reward in American Indian Women
- Telomere Attrition and Diabetes Risk in American Indians
- Developing a Diabetes Numeracy Intervention for AI/AN
- Tribal Turning Point: Pilot Study for Prevention of T2D in American Indian Youth

Selected research projects involving Native American investigators:

- Hepatitis Beta Research Network Clinical Center in Pacific Northwest/Alaska;
- Targeted Approach to Increasing American Indian Tissue and Organ Donation;
- Center for American Indian and Alaska Native Diabetes Translational Research;
- Chronic Kidney Disease Knowledge and Awareness among American Indians
- Washington University Center for Diabetes Translation Research





INDIAN HEALTH SERVICE

- Working with Johns Hopkins School of Public Health to assess interventions aimed at reducing arsenic exposure from drinking water wells
- Working with NIH to support Tribal community-driven NARCH research projects:
 - Effects of Complex Metal Exposure on Immune Status of Tribal members living on the Cheyenne River Sioux reservation, Black Hills Center for American Indian Health
 - Environmental Health Capacity Building projects aimed at reducing adverse impacts on environmental justice communities, Cankdeska Cikana Community College
- Over half of the IHS budget goes directly to Tribes to provide comprehensive health services, including traditional medicine and biomedical approaches



EPA scientists are:

- Examining Tribal dietary practices
 - Assessing risk with the goal of Tribes restoring heritage diets
 - Focusing on exposure assessments based on fish consumption patterns
- Creating GIS-based mapping tools to build environmental assessment and management capacity of tribes
 - Tribal-Focused Environmental Risk and Sustainability Tool (T-FERST)
 - Tribal Well Being Index

EPA grant support addresses:

- Tribal health: Indoor air quality and asthma associated with building and cookstove practices
- Issues tribes and small communities face with their water distribution systems
- Adaptation to Climate Change
 - Assesses water and aquatic resources, food security, and tribal health



“This makes it hard to live in the environment like our ancestors did.”



TODAY and TOMORROW... WE ARE HERE TO LISTEN!

- GOALS: Identify opportunities to incorporate TEK into research.
- Speakers to Address:
 - Cultural Competency;
 - Engaging Tribal Communities;
 - Environmental Justice; and,
 - Tribal Health Disparities.





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Thank you!



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National Toxicology Program
U.S. Department of Health and Human Services



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Superfund Research Program

NIEHS Strategic Plan Website
<http://www.niehs.nih.gov/strategicplan>

