

Northern Plains NARCH

Adeola Jaiyeola, MD
Principal Investigator
drajaiyeola@aatchb.org

Jennifer Larsen, MD
Program Director
jlarsen@unmc.edu

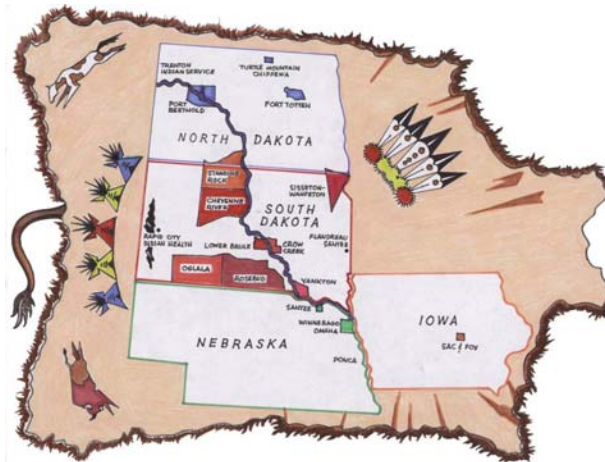
Sayaka Kanade
Project Coordinator
epikanade@aatchb.org

The Native American Research Centers for Health (NARCH) was established to allow American Indian and Alaska Native (AI/AN) tribes or tribally-based organizations to form partnerships with academic institutions so that intensive academic-level biomedical and behavioral research could be conducted upon existing and persistent AI/AN health problems. A major goal of the NARCH initiative is to increase the number capacity of AI/AN health professionals.

Under the umbrella of the Northern Plains NARCH, there are three pilot projects, each addressing a health priority of the Northern Plains tribes. The research projects include tribal involvement from beginning to end, including the early assessment of specific health problems, approaching communities for participation, and designing, implementing, and evaluating the study. Research assistants and staff hired to carry out the project in tribal communities will gain working experience and help to build the capacity of AI/AN health professionals.

In addition to the research studies, the Northern Plains NARCH sponsors a scholarship program to support American Indian and Alaska Native (AI/AN) undergraduate and graduate students pursuing an education in the health field.

Visit our website: www.aatchb.org/epi/narch.htm



Tribes of the Northern Plains

Cheyenne River Sioux Tribe
Crow Creek Sioux Tribe
Flandreau Santee Sioux Tribe
Lower Brule Sioux Tribe
Oglala Sioux Tribe
Omaha Tribe of Nebraska
Ponca Tribe of Nebraska
Rosebud Sioux Tribe
Sac & Fox Tribe of the Mississippi
Santee Sioux Nation of Nebraska
Sisseton/Wahpeton Oyate
Spirit Lake Dakota Nation
Standing Rock Sioux Tribe
Mandan, Hidatsu, Arikara Tribes
Trenton Indian Service Area
Turtle Mountain Band of Chippewa
Winnebago Tribe of Nebraska
Yankton Sioux Tribe

Aberdeen Area Tribal
Chairmen's Health Board

Northern Plains NARCH

Aberdeen Area Tribal Chairmen's Health Board
1770 Rand Road
Rapid City, South Dakota 57702
605-721-1922
www.aatchb.org



Northern Plains NARCH

The Northern Plains Native American Research Centers for Health (Northern Plains NARCH) is a program of the

Aberdeen Area Tribal Chairmen's Health Board



Native American Research Centers for Health (NARCH) is an initiative funded by the National Institutes of Health and Indian Health Service. The Northern Plains NARCH is funded through NARCH III and NARCH IV.

Predicting insulin resistance in American Indian youth

PI: Jennifer Larsen, MD
University of Nebraska Medical Center
jlarsen@unmc.edu

Type 2 diabetes mellitus is rapidly increasing in American Indian (AI) adults and youth. Screening for acanthosis nigricans (AN), which correlates with hyperinsulinemia, has been embraced by many AI communities as a simple means to identify children at risk for diabetes. Yet, whether AN is the best marker of insulin resistance or risk of diabetes has not been determined. We propose two hypotheses: (1) Insulin resistance is greater in those with AN than those without, and (2) Gender-specific BMI for age and a combination of multiple biomarkers predict insulin resistance better than presence of AN in AI youth.

Using a cross-sectional screening of 5-18 year old AI youth and longitudinal evaluations of youth enrolled in an intervention program, the specific aims of this study are to:

- (1) Determine the prevalence of impaired fasting glucose, impaired glucose tolerance, and diabetes;
- (2) Compare severity of insulin resistance in those with and without AN;
- (3) Compare AN to gender-specific BMI-percentile for age in their ability to predict the presence of insulin resistance, and develop a predictive model based on multiple biomarkers; and
- (4) Determine which biomarker(s) best correlate with change in insulin resistance after an intervention.

This preliminary data will establish which biomarkers best predict insulin resistance, including states of pre-diabetes, and are most responsive to successful intervention. These results will be important for identifying youth at risk and for assessing effectiveness of diabetes intervention programs in AI youth.

Screening for asthma among children in Northern Plains tribal communities

PI: Kim Rodehorst, PhD, RNC
University of Nebraska Medical Center
tkrodeho@unmc.edu

Asthma has been identified as the most prevalent chronic illness of childhood. Asthma causes a heavy burden of disease, including death, disability, and school absenteeism, and is a great financial cost to families and the health care system. Established practice guidelines can greatly reduce the morbidity and mortality among children with asthma. Yet, currently there are no data on the proportion of Northern Plains tribal children with asthma who are receiving the recommended regimen of care. In addition, screening for asthma has been reported to be feasible and cost-effective. However, there is a lack of information on the utilization of screening programs for asthma among AI/AN children.

The overall purpose of this pilot study is to test the feasibility and utility of conducting an asthma screening program—using both questionnaires and spirometry—for AI/AN children in two Northern Plains tribal communities. The specific aims are to:

- (1) Determine the proportion of children not previously diagnosed with asthma who meet diagnostic criteria for asthma.
- (2) Determine the proportion of children previously diagnosed with asthma whose treatment plan is not appropriate for their level of severity.

Valuable data will also be generated on children who have risk factors for asthma or have symptoms consistent with asthma, but who do not meet the diagnostic criteria for asthma.

In order to “close the loop” and ensure that children identified by the screening obtain needed medical follow-up, this project maintains close linkage with the system providing health care services.

Mood Disorder Assessment Validation with Northern Plains Indians

PI: Jacque Gray, PhD
University of North Dakota
jgray@medicine.nodak.edu

American Indians have the highest per capita suicide rate compared to other ethnic groups in the US. It is often difficult to differentiate between anxiety and depression, and yet the treatment methods may differ. Furthermore, many psychological assessments are used with native populations without assessment of their validity and reliability within these populations. This study will examine the validity and reliability of mood disorder assessments routinely used in behavioral health clinics for their appropriateness with Northern Plains Indians.

The study will compare responses to a series of assessment instruments by diagnosed depressed and non-depressed and anxious and non-anxious Northern Plains Indians. The specific aims are to:

- (1) Collect normative data on commonly used clinical mood disorder assessments.
- (2) Analyze the reliability of each of the measures with Northern Plains Indians when compared to the general population published reliability.
- (3) Examine which symptoms of the Symptom Checklist-90-Revised will differentiate between the three groups: diagnosed depressed, diagnosed anxious, and normal and the effect of substance use on those results.
- (4) Examine the relationship of quality of life to the depressed, anxious and normal groups.

The assessments include: Center for Epidemiology Studies-Depression Scale (CES-D), Tri-Ethnic Depression Scale (TEDS), Beck Depression Inventory – II (BDI-II), Beck Anxiety Inventory (BAI), Beck Hopelessness Scale (BHS), Symptom Checklist-90-Revised (SCL-90-R), Substance Abuse Subtle Screening Inventory-III (SASSI-3), Quality of Life Inventory (QOLI), and the Northern Plains Bicultural Inventory (NPBI).