



Alaska Native Tribal Health Consortium

OUR VISION:

Alaska Native people are the healthiest people in the world.



Pop: 710,000; 20% Alaska Native people
 256 communities; 178 off road system



- Transport by small aircraft, boat, snowmachine
- 40 communities without piped water (2gppd)
- High costs
 - Milk = \$12/gal
 - Fuel = \$6/gal



The 12 Major Tribal Health Regions



- 1900-1970- health care provided by the U.S. government
- 1970-1998 AN people organized health care organizations, assumed ownership of health services. Each THO is part of AK Tribal Health Compact
 - Compact authorizes tribes and AN/AI THOs to operate health and health related programs with autonomy respective to their service region needs and priorities
- June 1st, 1998: ANTHC assumed responsibility for operations of I.H.S. programs. All AN health care is provided by AN organizations

THE ALASKA NATIVE HEALTH CARE SYSTEM REFERRAL PATTERN

Same Scale Comparison - Alaska Area to Lower 48 States



Bethel



Alaska Native Medical Center

ANTHC

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graph TD; ANTHC[ANTHC] --- ANMC[Alaska Native Medical Center]; ANTHC --- CHS[Community Health Services]; ANTHC --- EHE[Environmental Health & Engineering]; ANTHC --- BSS[Business Support Services];
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Alaska Native
Medical Center

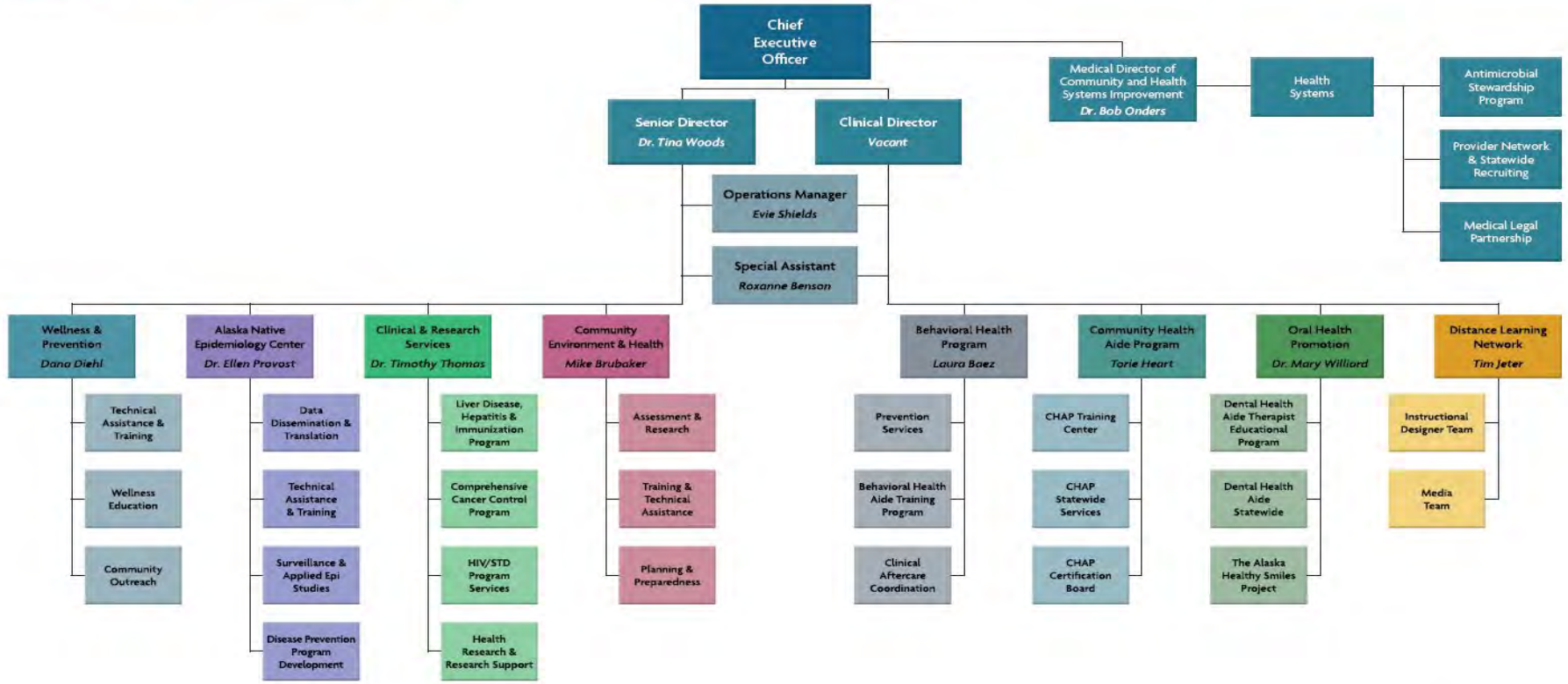
Community
Health Services

Environmental
Health &
Engineering

Business Support
Services

Community Health Services

as of June, 2017



Institutional and Community Investment to Research

- ANTHC is a tribally run organization. Its Board consists of AN people representing communities and Tribal Health Organizations across Alaska. AN people are the owners and customers.
- All research conducted at ANTHC or by ANTHC staff must be approved by:
 - IHS Alaska Area Institutional Review Board (AAIRB); ANTHC provides administrative support
- ANTHC Health Research Review Committee (HRRC)
 - Abstracts, Manuscripts, Proposals (AMP) committee
- Tribal Health Organization
- Communities



Clinical and Research Services



- **Mandate**

- Conduct research on health issues that impact Alaska Native People
- Improve ability to apply and successfully compete for research funding
- Support ANTHC staff in conducting research; provide technical assistance
- Support Tribal Health Organizations in reviewing and conducting research
- Expand capacity to locally manage and analyze research data
- Ensure research findings are disseminated to the Alaska Native People, Alaska Tribal Health System, and peer-reviewed publications

Health Research

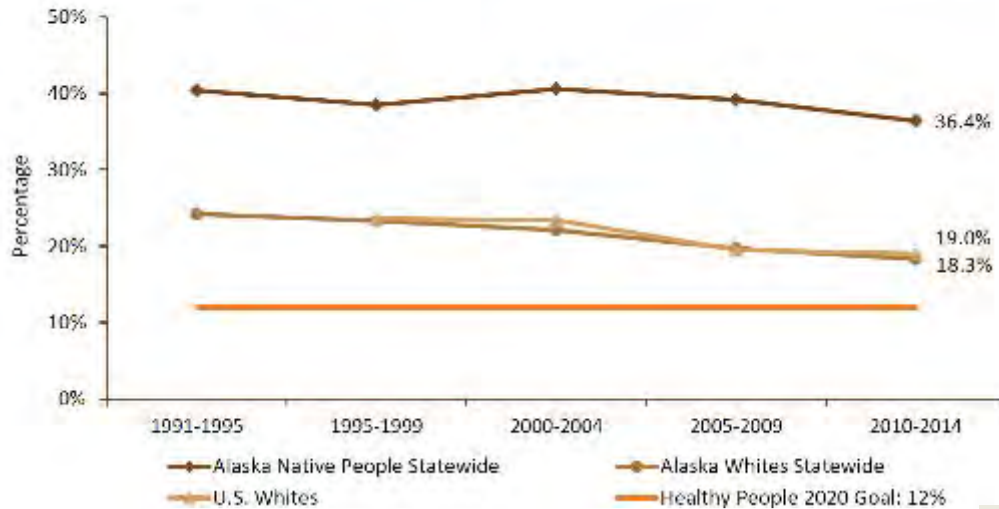


ALASKA NATIVE
TRIBAL HEALTH
CONSORTIUM

Tobacco use

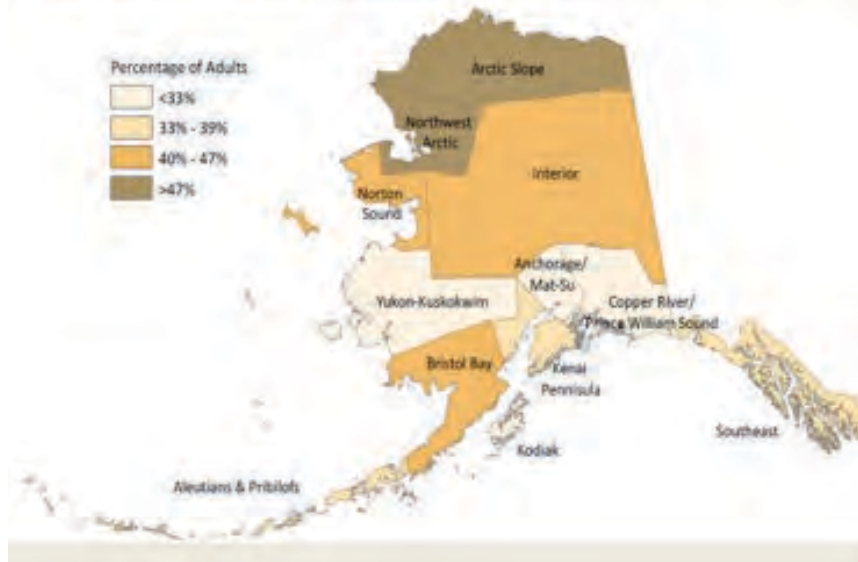
Adult Current Smoking, 1991-1995 to 2010-2014

Data Source: Alaska Division of Public Health, Behavioral Risk Factor Surveillance System; Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System



Alaska Native Adult Current Smoking by Tribal Health Region, 2009-2013

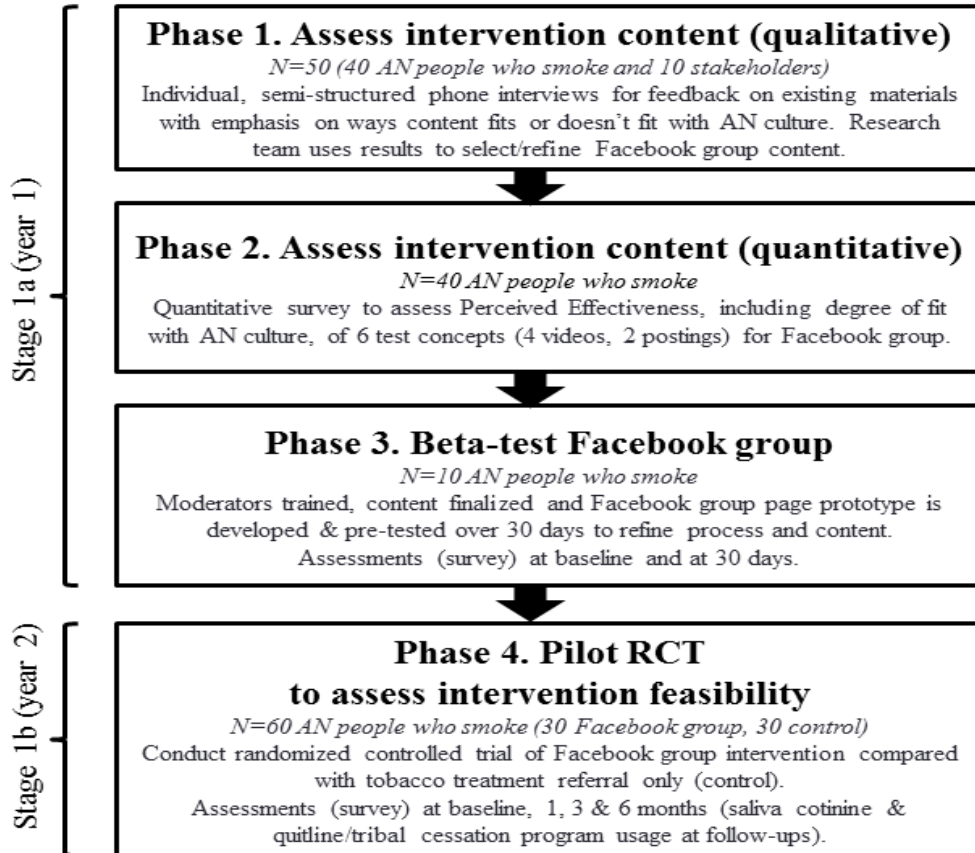
Data Source: State of Alaska, Division of Public Health, Behavioral Risk Factor Surveillance System



Tobacco Cessation

CANQuit: Facebook Intervention to help Alaska Native People Quit Smoking

Figure 1: Overview of Process to Develop CAN Quit Facebook Intervention



Colorectal Cancer Prevention

Epidemiology

- Highest incidence of colon cancer: 92:100,000
- Mortality: AN vs. US Whites: 35.4 vs 14.42: 100,000



Current Research: AK FIRST R01

Funded by NCI to University of Pittsburgh

Randomized controlled intervention trial

Healthy AN's in Anchorage/Wasilla area due for CRC screening

- N=30: Fiber supplement (Resistant starch) daily x 4 weeks
- N=30: Digestible starch daily x 4 weeks

Colonoscopy -> Intervention -> Flexible sigmoidoscopy

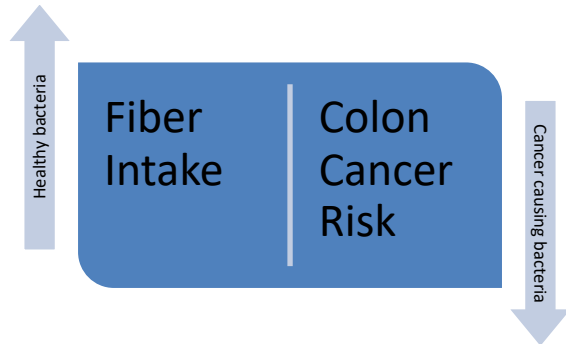
Assessing changes to microbiota, colonic mucosal inflammation

Collaborators: University of Pittsburgh, Imperial College London

- Status: 45 enrolled, 31/60 completed

Future Plans

- Develop fiber supplement from traditional AN sources of fiber



Childhood Obesity

Epidemiology

- 68% children 3-5 years >85th %-tile for BMI
- 43% had BMI >95th %-tile



Current Research: Back to Basics

R01 Funded by NINR & NIGMS to ANTHC

Randomized comparison intervention trial

12 Y-K Head Start programs operated by RurAL CAP

- 6 communities PA curriculum + HS menu changes
- 6 communities PA curriculum ONLY

❖ Alaskan foods that are nutrient-dense in HS menu

❖ Physical activity with PA curriculum in HS

Outcomes: Improved BMI, A1c, and cholesterol/HDL levels

Collaborators: UAF (USDA Tundra Gifts), RurAL CAP, YKHC

Future Need/Plans

Roll out PA curriculum and menu changes to all HS programs

Create sustainable donation networks for subsistence foods in each community

Increase access to fresh fruits and vegetables

Increase community interest in drinking water vs sugar sweetened beverages

Pediatric Oral Health

Stay for tomorrow's talk



Lack of in-home piped water

Epidemiology

- 41 communities (population ~20,000) in Alaska do not have piped water to the home
- Self haul (n=30)
- Covered haul (n=11)
- Limited water: 1.5-2.5 gallons per person per day
 - Refugee camp levels
- Piping the remaining communities is challenging:
 - Cost (\$400,000 per house in one village)
- Recently completed 4 village study
- Health consequences in water-wash illness
 - Respiratory, skin and GI infections



Current Research:

- Portable Alternative Sanitation System

Future Needs/Plans

- Simple decentralized technologies

Portable Alternative Sanitation System



Liver Diseases



Alaska Native American Indians (AN/AI) have significantly higher rates of mortality due to liver diseases than general US population. These include:

- Mortality due to Hepatitis C virus (HCV) for both AN/AI
- Hepatocellular Carcinoma (HCC) for both AN/AI
- Mortality due to hepatitis B virus (HBV) for AN only
- Primary Biliary Cholangitis (PBC): Rare disease; AN only group studied
- Autoimmune Hepatitis (AIH): Uncommon disease; AN only group studied
- Non Alcoholic Fatty Liver Disease (NAFLD): Unstudied in both AN and AI
- Alcoholic Liver Disease

Liver Disease: Current Research

Hepatitis C:

- Follow-up of 1,000 persons with chronic HCV infection treated for cure comparing morbidity/mortality over 5-years to 800 untreated historical controls prior to 2012

Hepatitis B:

- Ongoing 30 year follow-up of 1200 persons with chronic HBV morbidity/mortality and impact of antiviral therapy

PBC:

- Follow-up of 100 persons with PBC examining impact of treatment and progression/regression of liver fibrosis using FibroScan and non-invasive tests

AIH:

- Follow-up of 150 persons examining impact of treatment and progression/regression of liver fibrosis using FibroScan and non-invasive tests

NAFLD:

- Preliminary study examining proportion of Adults with NAFLD who have Non-Alcoholic Steatohepatitis (NASH) comparing non-invasive markers to liver biopsy
- Funded study to examine the impact of NAFLD and NASH in children

Arthritis and Autoimmune Diseases

Epidemiology

- High rates of arthritis overall and specific types
- High rates of lupus and some other autoimmune diseases



Quality of Care and Access to Care

- Recent focus on telemedicine evaluation

HIV/STD: Current Research



- Alaska Native LGBTQ2S+ Sexual Health Survey
- Integrating Culturally-based Strengths to Address Gynecological Health Among AN/AI Women
- Alaska Stigma Index Project: Understanding experiences of stigma and discrimination among Alaska Native/American Indian (AN/AI) People Living With HIV (PLWH)

Pediatric
Clinical
Translational
Research



ALASKA NATIVE
TRIBAL HEALTH
CONSORTIUM



ECHO

Environmental influences
on Child Health Outcomes

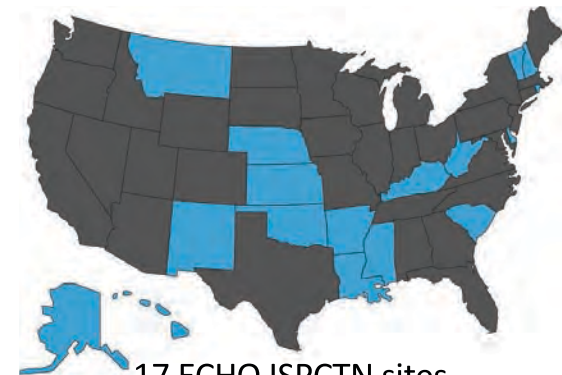
A program supported by the NIH

IDEA States Pediatric
Clinical Trials Network

ISPCTN

Alaska Native Tribal Health Consortium and Southcentral Foundation form the Alaska site for NIH's ECHO ISPCTN network

- **Goal:** Take part in clinical trials; Develop research infrastructure for rural/underserved
- **Research Emphasis:** Environmental Influences on Child Health Outcomes (ECHO)
- **Alaska Activities:**
 - Completing manuscript on Best Practices in Indigenous Research
 - Negotiated data sharing agreements as only Tribal entity in multi-center trials
 - Neonatal Opioid Withdrawal Syndrome
 - Evaluating impact in change to family-focused care
 - Developing partnerships with rural facilities



17 ECHO ISPCTN sites

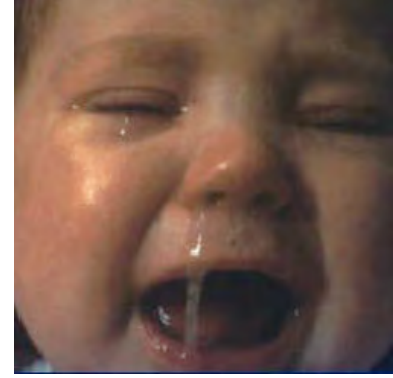
NARCH X Study

Prenatal Vitamin D Supplementation

- **Background:** Decreased marine intake in pregnant women led to more Vitamin D deficient rickets (soft bones) in infants/children.
 - Yukon Kuskokwim Health Corporation started prenatal vitamin D supplementation in 2017.
 - Statewide prenatal vitamin D recommendations were published in 2018
- **NARCH Study:** Assess impact of prenatal vitamin D supplementation on sufficient vitamin D levels and early childhood cavities in children



Surveillance for RSV and other Viral Respiratory Infections in American Indians/Alaska Natives



- **Background:** Alaska Native infants have the highest respiratory syncytial virus (RSV) hospitalization rate in the U.S.
- **Study:** Nose swab for viruses, medical review for children <5 and pregnant women admitted at YKDRH or ANMC with respiratory infection during the winter respiratory season.
- **Collaborator:** Johns Hopkins University conducting surveillance with Navajo and White Mountain Apache Tribes

NARCH X Capacity Building

Are you Alaska Native or American Indian and interested in health research?
Are you a researcher or public health professional interested in Alaska Native health research?
Looking for an exciting way to start out your summer and experience campus life?

THE ALASKA NATIVE TRIBAL HEALTH CONSORTIUM AND THE ALASKA PACIFIC UNIVERSITY INVITE YOU TO ATTEND THE **ALASKA INDIGENOUS RESEARCH PROGRAM: PROMOTING RESILIENCE, HEALTH AND WELLNESS**

Program dates:

May 4-22

Registration deadline:

April 3

Internship dates:

Undergraduate: May 18-June 19
Graduate: May 18-July 17

Internship application

deadline:
January 24

Historically, Alaska Native/American Indian (AN/AI) individuals have been underrepresented among researchers and health scientists, and there is a need for Western-trained researchers to be culturally grounded, respectful and responsive in meeting the health needs of AN/AI communities.

The goal of this unique research program is to increase the health research capacity of AN/AI individuals and communities by providing cross-cultural research education.

The overarching learning objectives of the research program are:

- Understanding Indigenous and Western ways of knowing as a foundation for Alaska Native health research
- Understanding how to integrate Indigenous and Western methodologies
- Understanding community-based participatory research and how it aligns with the research process
- Understanding the principles of ethics in Indigenous health research
- Describing the impact of historical trauma on health research among AN/AI Peoples
- Recognizing varying levels of community engagement and ownership of AN/AI health research

The program offers:

- Three weeks (five days a week, eight hours a day) of courses on the APU campus at no cost
- Breakfast and lunch on program days
- Limited number of scholarships that cover airfare as well as room and board on the APU campus
- College and professional development credit
- Internship opportunities to gain more skills and research experience

CHOOSE THE WEEK(S) THAT BEST FIT(S) YOUR EXPERIENCE:

Week One: May 4-6
Advanced research courses

Week Two: May 11-15
Research ethics courses

Week Three: May 18-22
Introductory research courses

Internship opportunities
Undergraduate: May 18 - June 19
Graduate: May 18 - July 17

ATTEND UP TO THREE WEEKS OF COURSES COVERING:

- Indigenous and Western research methodologies
- Community-based participatory research
- Culturally responsive community engagement and communication
- Health research ethics
- Health research and historical trauma



For more information, visit anths.org/indigenous-research.

American Indian/Alaska Native Clinical and Translational Research Program

- NIH IDeA funded
- Montana and Alaska
- 7 institutions: Blackfeet college, Southcentral Foundation, ANTHC, UAA, UAF, MSU, UM
- Cores:
 - Pilot core
 - Research Design, Epi and Biostats
 - Professional Development
 - Community Engagement

Year 5 AI/AN CTRP applications (n=46)

- Evaluating a new model of care for **neonatal opioid withdrawal syndrome** in Alaska hospitals
- Prospective Cohort of Individuals at High Risk of **Gastric Cancer**
- Determining **NAFLD and NASH** occurrences in an Alaska Native/American Indian **Adult** Population
- Determining **NAFLD and NASH** occurrences in an Alaska Native/American Indian **Pediatric** Population
- Exploring Effective Ways of **Delivering Wellness Programs** to Alaska Native Youth
- Educational Needs Assessment for Rural Health Providers caring for Alaska Native people with **Burn Injury**
- Cellular and Molecular Characterization of **Gastric Cancer** in Alaska Native People
- Developing Indigenous Indicators of **Household Water Security** in Alaska Native Communities
- Examining Realized Constraints and Perceived Barriers to the Collection and **Consumption of Fish** Among Alaska Native Communities



- Over 266,000 serum specimens from 84,000 persons (85% AN)
- Isolates from invasive bacterial disease surveillance program
- Urine and other tissue
- Located at CDC-Arctic Investigations Program
 - -30 C Walk-in Freezer
 - Eight -70 C Freezers
- AASB Oversight Committee
 - Alaska Native Tribal Health Consortium
 - CDC-AIP
 - Tribal Health Organizations

ANTHC Pathology Specimen Archive



- 600,000+ paraffin-coated tissue samples and slides from 1960's to present

Dissemination of Research

- Peer reviewed publications
- Conference presentations
 - Local, National
 - Arctic Region: International Congress on Circumpolar Health
- Lay literature
- Next Alaska Native Health Research Conference will be held in Anchorage in May 2021



Research Publication Database

135 articles, 2014-present

- Arthritis (14)
- Cancer (38)
- Cardiovascular disease (1)
- Climate change (12)
- Diabetes (1)
- Health status (4)
- Helicobacter pylori (4)
- Hepatitis (44)
- HIV (2)
- Infant Mortality (1)
- Immunizations (2)
- Obesity (2)
- Occupational & Environmental Exposures (1)
- Opioids (2)
- Oral Health (1)
- Reproductive Health (5)
- Research Design and Methods (3)
- Respiratory Infection (14)
- Rickets/Vitamin D (3)
- Tobacco (9)
- Unintentional Injury (3)
- Water & Sanitation (6)
- OTHER (13)

Thankyou!



ANTHC Clinical and Research Services

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