



From Home to School: Tribal Indoor Air Quality Study

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Our Partners

- Cherokee Nation Environmental Program
- Cherokee Nation Health Services
- Navajo Nation Environmental Protection Agency
- Nez Perce Tribe Environmental Program
- Nimiipuu Health (Nez Perce Tribe)
- Institute for Tribal Environmental Professionals
- University of Oklahoma Health Sciences





Aims

- Determine the effects of indoor air quality on asthma related to tribal home-&-school childhood environmental exposures.
- Total Exposure: school and home environments
- Demonstrate the importance of traditional ecological knowledge (TEK).
- Test differences between home and school environments to determine if asthma symptom days decrease with TEK education.





TEK Focus

- Balance
 - Reduce asthma triggers to or below background or natural levels.
 - Focus where triggers concentrate.
- Restoration/renewal
 - Replace damaged materials.
- Purify
 - Use simple & safe cleaning.
 - Water & soap.
 - Ventilate-fresh air.





Homes & Schools

- Compared homes and schools that received education and those that did not.
- Cherokee Nation
 - 94 Homes in study.
 - 12 public schools in Cherokee Nation
- Navajo Nation
 - Up to 14 homes in study.
 - 2 Shiprock, NM area schools.
- Nez Perce Tribe
 - 25 homes in study.
 - 4 public schools in Nez Perce Reservation





Pets





Mold





Rodents





Sampling





Data

- CO₂
- Humidity/Temperature

Outdoor
Environmental
Variables Monitoring



- ATP Sampling Assessment
- Allergen Dust Sampling
 - CO₂
 - CO
- Building Condition
 - Humidity/Temp

Indoor Environmental
Variables



- Illness-absenteeism
- Nurse Visits and reported illnesses/symptoms
- Health Outcomes
- Building Attributes
- Student Demographics

Dependent
Variables &
Covariates



Year 3-4 Analysis

- Structuring databases for analyses
 - Outdoor environmental variables
 - Indoor environmental variables
 - Building conditions/attributes
 - Attendance/health data
 - Health Outcome (Asthma Control Test)
 - Cherokee Nation medical records/asthma codes
- QC reviews of databases
- Statistical analyses/hypotheses tests
- Research Advisory Panel review and interpretation





What's Next?

Outreach & Education

- Research Publication
 - Navajo Nation Research Conference 2017
 - Conferences
 - Journal articles
- ITEP Intern
 - Webinars
 - Guidance Materials
- Outreach Cherokee Nation, Navajo Nation & Nez Perce Tribe





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