

# Lakota Smoke-Free Home Interventions

Rae (Granbois) O'Leary, MPH, RN

Public Health Analyst

September 19, 2019

National Indian Health Board Tribal Health Conference

**MISSOURI BREAKS**

*Creating Opportunities for Health*



ADVANCING INNOVATIVE SOLUTIONS THROUGH  
PARTNERSHIPS, DATA & UNDERSTANDING

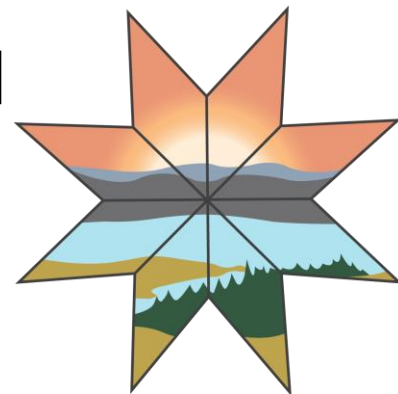
# Overview

- Secondhand smoke initiatives of the Canli Coalition of the Cheyenne River Sioux Tribe
- Study of secondhand smoke intervention with Oglala Sioux Tribe households
- Study to promote smoke-free homes in Lakota communities



# Background

- Secondhand smoke (SHS) is a Class A Carcinogen.
- SHS exposure increases risk for lung cancer, respiratory diseases, low birthrate, and other diseases.
- Carcinogenic compounds (NNAL, NNK) found in urine of smokers and nonsmokers exposed to SHS.
- Lakota Tribes have smoking rates as high as 50% for both men and women.
- High smoking rates has led to high rates of secondhand smoke exposure.



# Canli Coalition of CRST Secondhand Smoke Initiatives

July 2013

Cheyenne River Housing Authority makes 24 new **parks** smoke-free

June 2014

Cheyenne River **Motel** implements \$50 smoking fine

Sept 2014

Timber Lake City Council passes a smoke-free **park** policy

Aug 2016

3 smoke-free housing policies pass for low-income **apartments**

Oct 2016

Eagle Butte City Council passes a smoke-free **park** policy

Dec 2017

Eagle Butte **School** enhances tobacco policy and respects the use of Cansasa (traditional tobacco)

Lakota Cultural Center discourages using commercial tobacco in a sacred way & **bans selling commercial tobacco**

Feb 2014

Cheyenne River **Indian Health Services** includes **e-cigs** in tobacco policy

July 2014

**CRST Tribal Council enacts Ordinance 77 and becomes 1st SD tribe with smoke-free indoor public places!**

May 2015

CRST Tribal Council declares **PowWows** and **Rodeo Grounds** smoke-free

Sept 2016

Timber Lake **School** enhances tobacco policy and respects the use of Cansasa (traditional tobacco)

Nov 2016




# Canli Coalition of CRST Secondhand Smoke Initiatives: Parks

July 2013

Cheyenne River  
Housing Authority  
makes 24 new  
**parks** smoke-free



Welcome to Mato Wakpa Playground



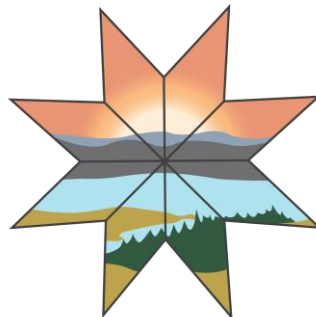
This playground was designed for 5-12 year olds

**Playground Rules**

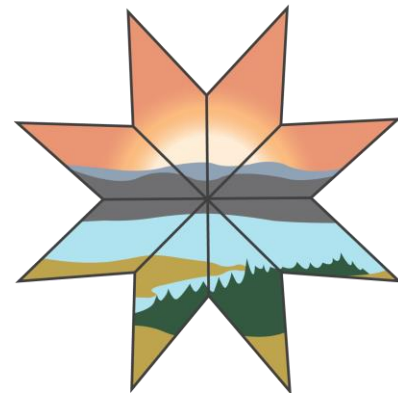
- Play at your own risk
- Adult supervision is recommended
- Please be considerate of others
- Use the equipment correctly
  - Do not use when wet
- Our playground is a tobacco, alcohol and drug free zone
  - No tobacco within 50 feet of playground
  - All animals must remain outside of fence
- Playground is open for play from dawn to dusk
  - And above all – have fun!

Help take care of our playground by picking up trash and reporting broken equipment to:

Cheyenne River Housing Authority 605-964-4265



# Canli Coalition of CRST Secondhand Smoke Initiatives: Pledges



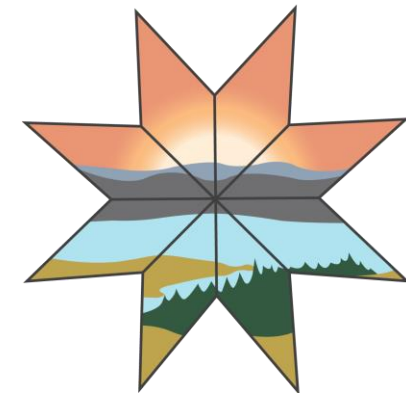
# RED TALKS

**Shaping Tribal Futures**

# Canli Coalition of CRST Secondhand Smoke Initiatives: Apartments

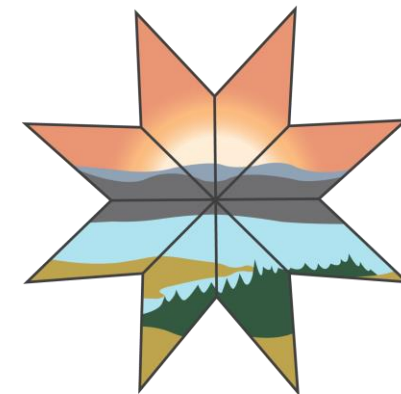
Aug 2016

3 smoke-free  
housing policies  
pass for low-  
income  
apartments



# Canli Coalition of CRST Secondhand Smoke Initiatives: Healthcare

- Train AND retrain clinicians to document secondhand smoke exposure in medical record
  - ICD-10 code Z77.22 for “secondhand tobacco smoke”



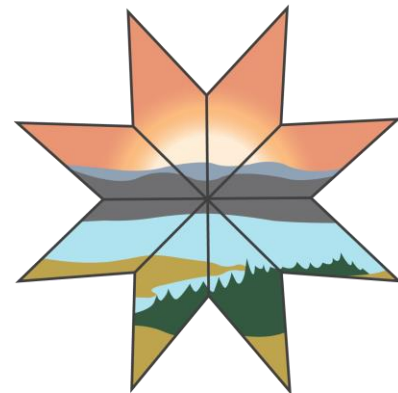
# Canli Coalition of CRST Secondhand Smoke Initiatives: Lakota Values



Respect and honor your loved ones by making your home **smoke-free**

For support to make your home smoke-free call Rae at 964-1260

- Compassion
- Wisdom
- Bravery
- Honor
- Respect
- Humility
- Generosity
- Love
- Educate
- Truth
- Sacrifice
- Perseverance
- Fortitude



# Canli Coalition of CRST Secondhand Smoke Initiatives: Children's Book

We thečhíhila (love) our ̄hunwín (auntie), but it's hard to be at her thípi (house)...



3

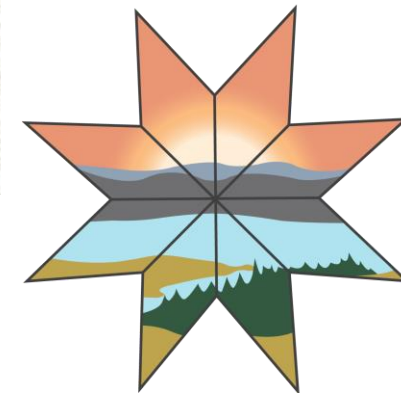


...because she smokes čanlí (cigarettes) in her thípi (house).

4



<https://www.youtube.com/watch?v=UblwicZUTjk&t=2s>



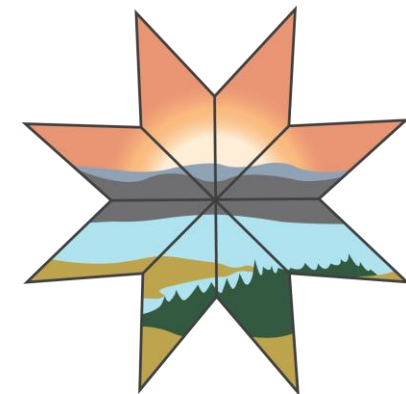
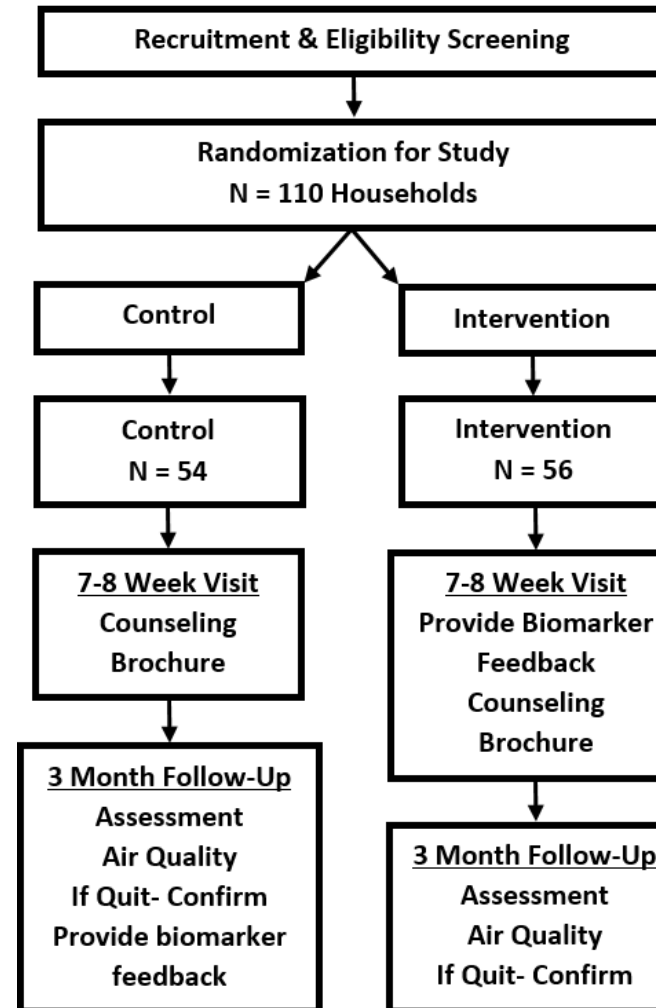
# Secondhand Smoke Intervention with OST: Overview

## Randomized

- 110 families (one smoker and one potty-trained child)

## Measures collected

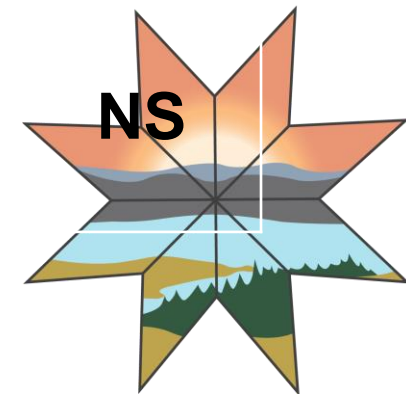
- Detailed questionnaire
- Ambient nicotine in air (dosimeter) in intervention and control
- Urine biomarkers from potty-trained child
  - Cotinine (metabolite of nicotine)
  - NNAL (tobacco-specific carcinogen found in urine of nonsmoker)



# Secondhand Smoke Intervention with OST: Results

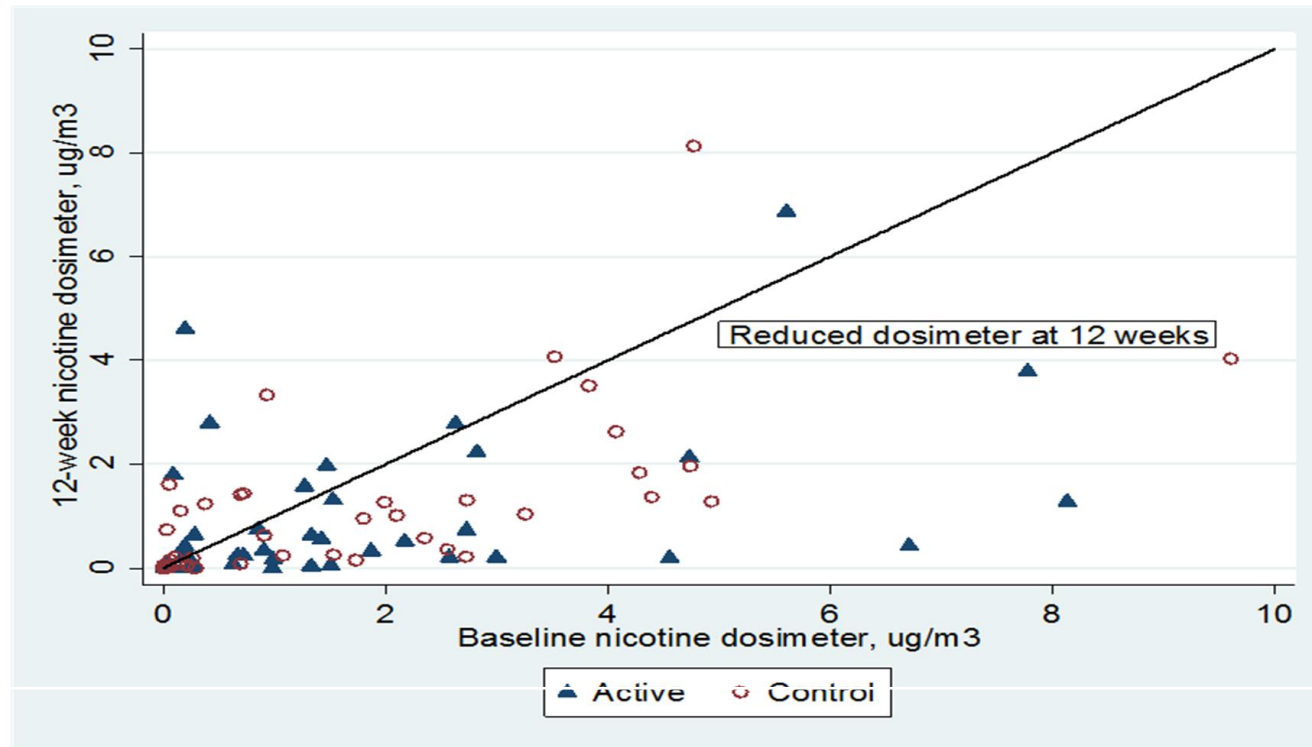
Table 1. Child Biomarker Data Documenting Exposure To Tobacco

| Median (IQR)             | TOTAL                   | Active                  | Control                 | P  |
|--------------------------|-------------------------|-------------------------|-------------------------|----|
| <u>Baseline</u>          |                         |                         |                         |    |
| Child Cotinine,<br>ng/mL | <b>7</b> (3, 22)        | <b>7.5</b> (4, 17.5)    | <b>6.5</b> (2, 31)      | NS |
| Child NNAL,<br>pg/mL     | <b>14.6</b> (6.3, 35.7) | <b>17.0</b> (6.3, 32.2) | <b>12.1</b> (4.5, 44.3) | NS |

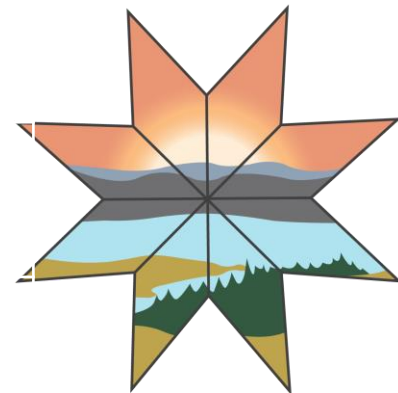


# Secondhand Smoke Intervention with OST: Results

## 1° Outcome, Passive Nicotine Dosimeter

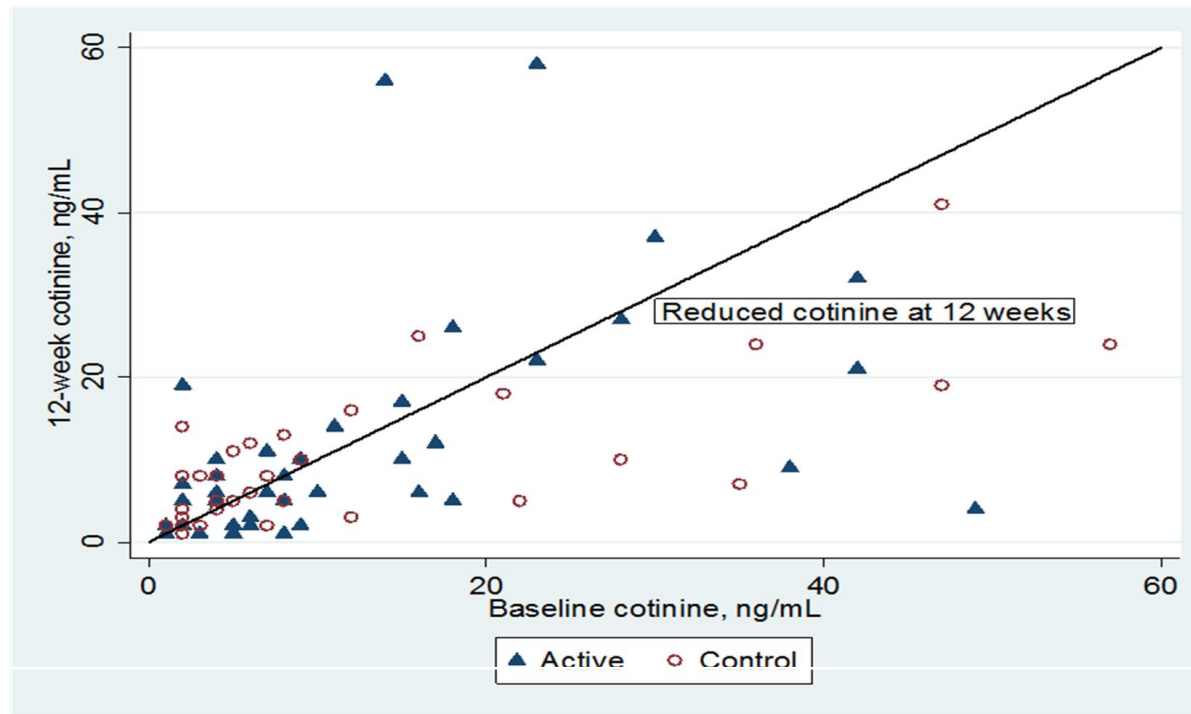


|                                  | Active             | Control             | P  |
|----------------------------------|--------------------|---------------------|----|
| Baseline – Week 12, median (IQR) | -0.42 (1.55, 0.02) | -0.31 (-1.68, 0.10) | NS |

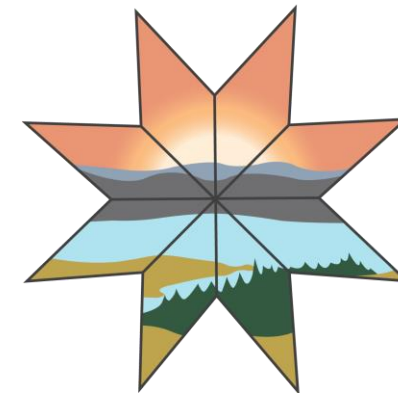


# Secondhand Smoke Intervention with OST: Results

## 1° Outcome, Child Cotinine



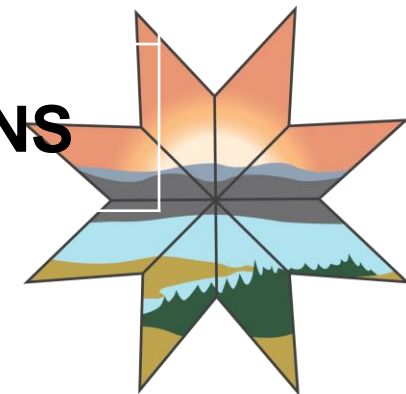
|                                  | Active    | Control      | P  |
|----------------------------------|-----------|--------------|----|
| Baseline – Week 12, median (IQR) | 0 (-4, 4) | 0 (-10.5, 3) | NS |



# Secondhand Smoke Intervention with OST: Results

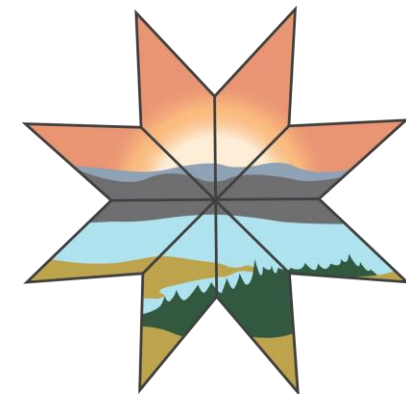
Table 2. Secondary Outcomes at Week 12

|   | Active         | Control     | P    |
|---|----------------|-------------|------|
| Self-report complete in-home smoking restrictions | 41%            | 21%         | 0.05 |
| Quit smoking $\geq 1$ time since baseline         | 46%            | 26%         | 0.05 |
| CPD, change from baseline                         | -1.5 (-4.5, 0) | 0.5 (-3, 0) | NS   |

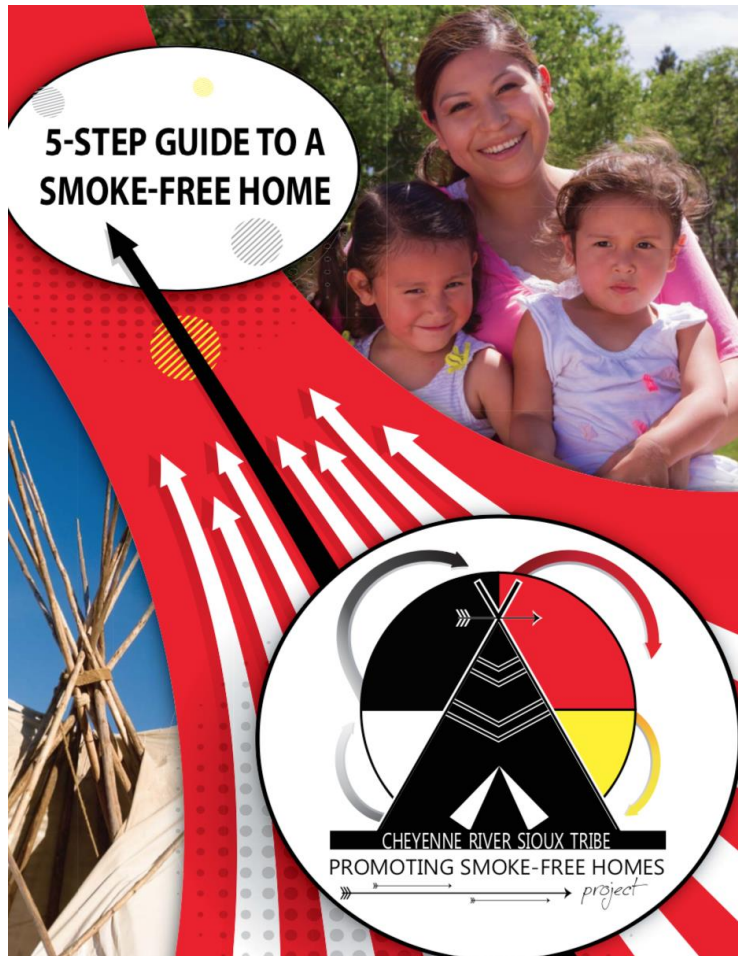


# Secondhand Smoke Intervention with OST: Conclusions

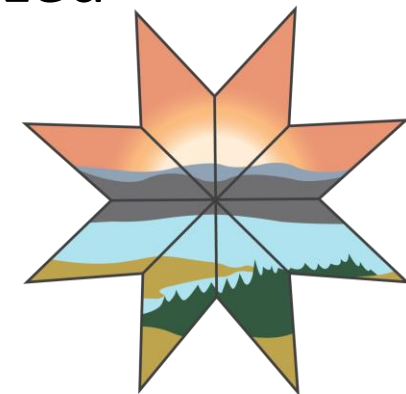
- Biomarker feedback was marginally significant for self-reported complete in-home smoking restrictions and quit attempts.
- No associated change in child biomarker exposure
  - It is possible that children are being exposed elsewhere.
  - Children may be ingesting residual nicotine remaining on surfaces after the cigarette is extinguished (thirdhand smoke).



# Promoting Smoke Free Homes on CRST

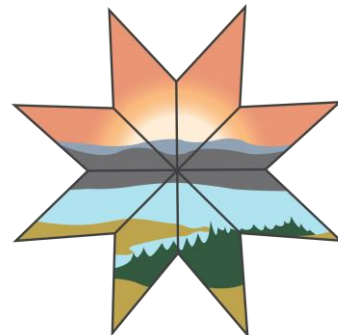


- Completed and analyzed 13 KI Interviews with people who independently made their homes smoke-free
- Developed a Tribal Advisory Board
- Created intervention materials
- Currently testing the intervention and biomarker feedback with a randomized controlled trial (n=138)



# Acknowledgements

- The Canli Coaliton of CRST has been primarily funded by the South Dakota Department of Health and American Non-Smokers Rights Foundation
- Secondhand Smoke Intervention among Lakota Households was performed under the auspices of the Collaborative to Improve Native Cancer Outcomes, a P50 project sponsored by the National Cancer Institute (grant no. P50CA148110; PIs D. Buchwald and J. Henderson).
- Promoting Smoke-Free Homes in Lakota Communities is funded by the National Institutes of Health National Institute of Environmental Health Sciences (grant no. 1R01FS027793-02; PI P. Nez Henderson)
- All research was approved by the respective Tribes and the Great Plains Area Indian Health Service IRB and advised by respective Tribal Advisory Boards.



# Pilamaya! | Thank You!



605.964.1260



Email address



[www.missouri-breaks.com/](http://www.missouri-breaks.com/)



@MissouriBreaks1



[www.facebook.com/MissouriBreaksResearch/](https://www.facebook.com/MissouriBreaksResearch/)

## MISSOURI BREAKS

*Creating Opportunities for Health*



ADVANCING INNOVATIVE SOLUTIONS THROUGH  
PARTNERSHIPS, DATA & UNDERSTANDING