





# PARTICIPATORY INTERVENTIONS TO REDUCE ARSENIC EXPOSURE IN AMERICAN INDIAN COMMUNITIES

TRACY ZACHER, RN

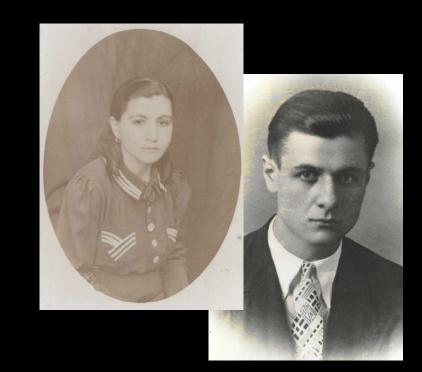
**OCTOBER 29<sup>TH</sup>, 2020** 

PARTNERS FOR ENVIRONMENTAL PUBLIC HEALTH

#### TRACY ZACHER, RN FIELD OFFICE DIRECTOR MISSOURI BREAKS RESEARCH OST FIELD SITE











### PARTICIPATORY INTERVENTIONS TO REDUCE ARSENIC EXPOSURE IN AMERICAN INDIAN COMMUNITIES







#### **MISSOURI BREAKS** Creating Opportunities for Health



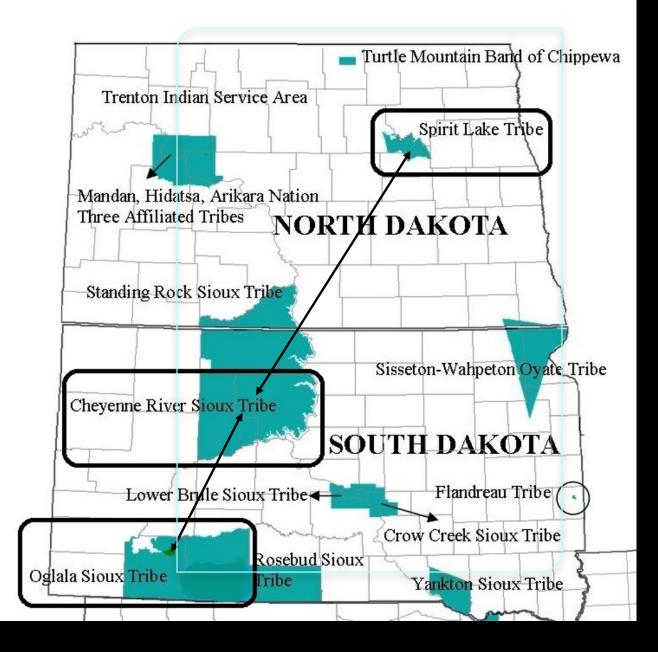




#### MISSOURI BREAKS INDUSTRIES RESEARCH, INC

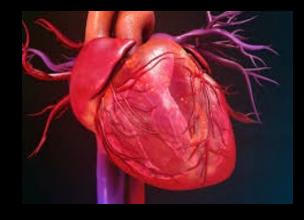
# Includes partnerships with 3 tribes:

- Cheyenne River Sioux Tribe
  Main Office in Eagle Butte
- Spirit Lake Tribe
  Field Office
- Oglala Sioux Tribe
  Field Office



## THE STRONG HEART STUDY

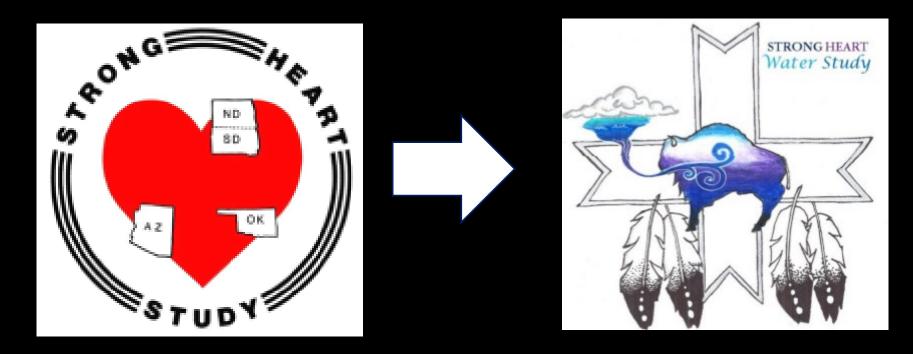
- A prospective cohort study of heart disease in the AI population.
- Started in 1988 and continues to present day
- Consists of participants from 13 American Indian tribal groups in North Dakota, South Dakota, Southwest Oklahoma, and Arizona
- Missouri Breaks manages the Dakota tribes in the study
- Has been continuously funded and supported by the National Heart, Lung, and Blood Institute (NHLBI)





## THE STRONG HEART WATER STUDY

- Many households throughout the Dakota tribes use private wells which can be high in arsenic
- Strong Heart Study found a significant association between arsenic exposure and cancer, diabetes, and cardiovascular disease in AI communities
- These findings led to the Strong Heart Water Study



## OBJECTIVE OF THE STRONG HEART WATER STUDY

Develop and evaluate the effectiveness of participatory interventions to reduce arsenic exposure among private well users in American Indian communities from North Dakota and South Dakota from the Strong Heart Study sites.



#### AIM 1: STRONG HEART WATER STUDY

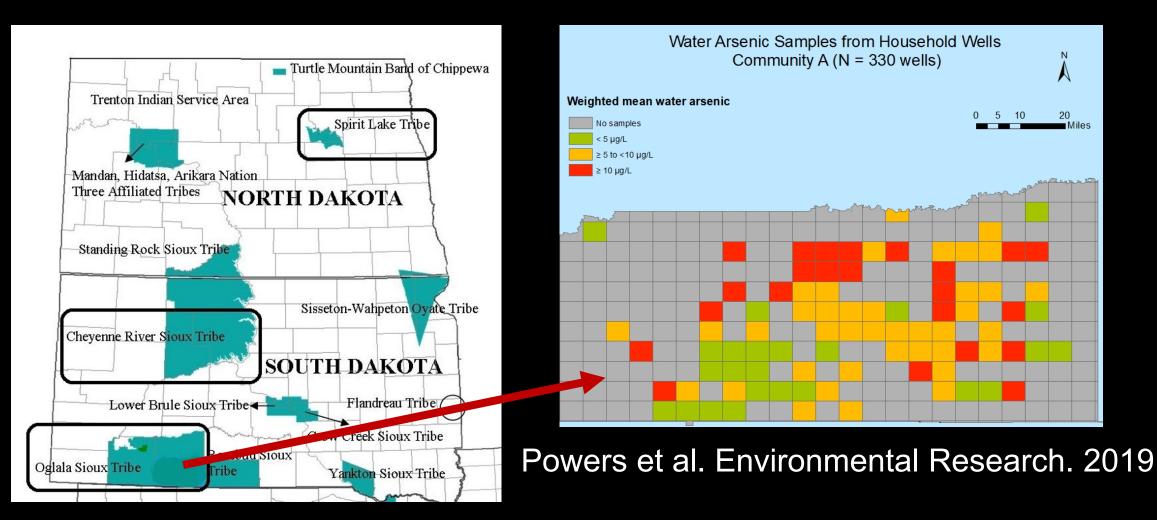
# Develop Sustainable Participatory Arsenic Interventions through Formative Research and Community Engagement

- Semi-Structured Interviews
- Community Workshops
- Pilot of Interventions

## COMMUNITY WATER ARSENIC TESTING PROGRAM

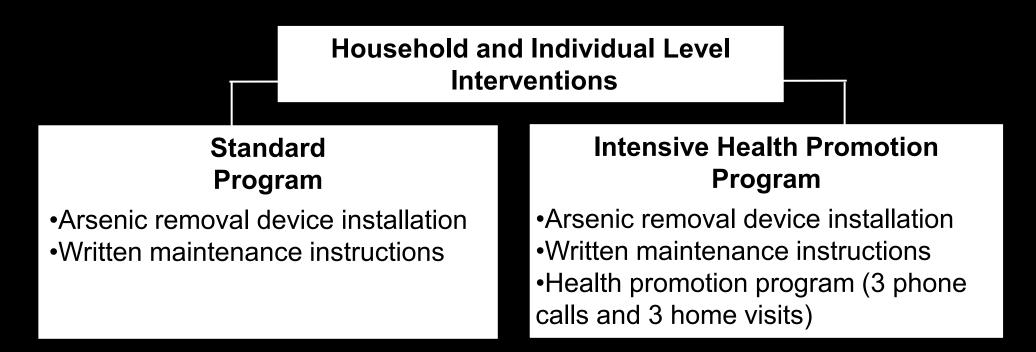
#### • 552 Wells Tested

179 Wells with Arsenic above EPA Standard of 10 μg/L



## AIM 2: STRONG HEART WATER STUDY

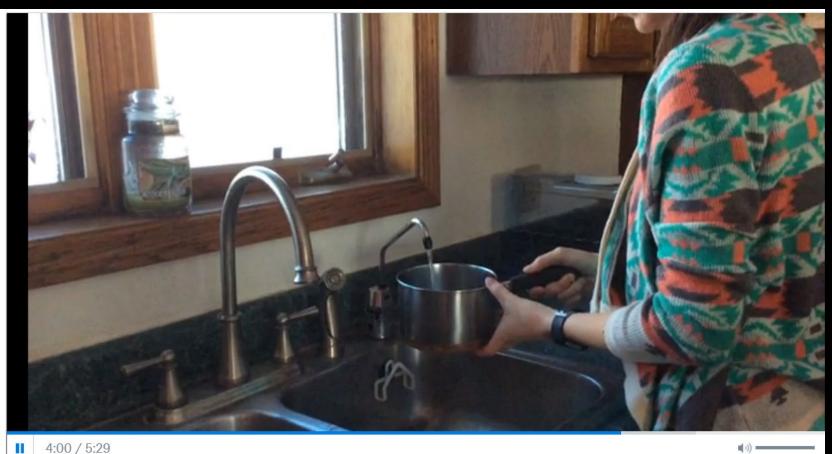
- Conduct a randomized controlled trial to evaluate the effectiveness of the health promotion program in reducing arsenic exposure
- Compare arsenic in urine, CVD markers in blood, and respiratory health pre-intervention and 1-3 years post-intervention



## INSTALLING AN ARSENIC REMOVAL DEVICE



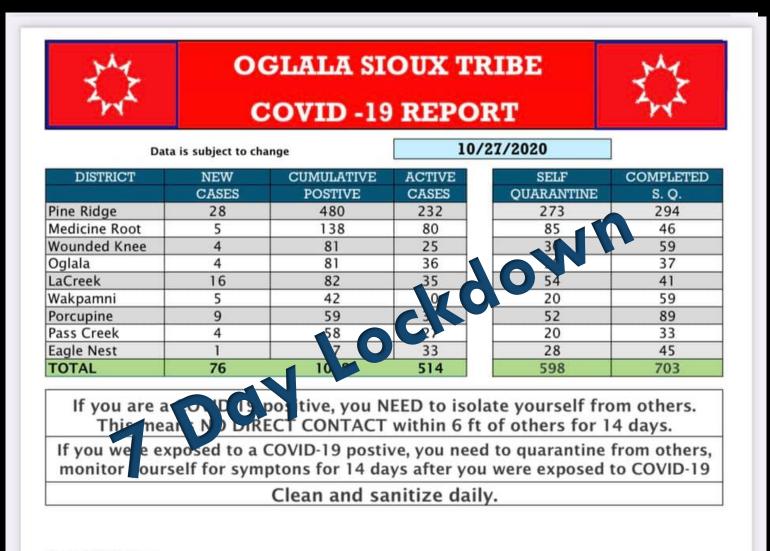
#### VIDEOS WITH COMMUNITY TESTIMONIALS ON ARSENIC EXPOSURE AND DRINKING AND COOKING WITH WATER FROM THE FILTER FAUCET



## VIDEO ON CHANGING THE ARSENIC REMOVAL DEVICE CARTRIDGE



## **CURRENT COVID SITUATION ON OST**



Source: OST CHR Program Prepared by: OST Health Administrator/Public Health Authority

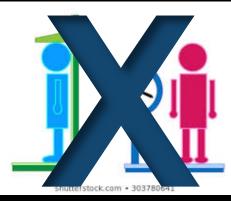
## Evaluation Visits Before COVID



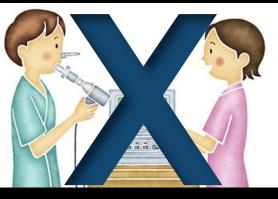
#### Contactless Evaluation Visits













Intensive Arm Visits







Search

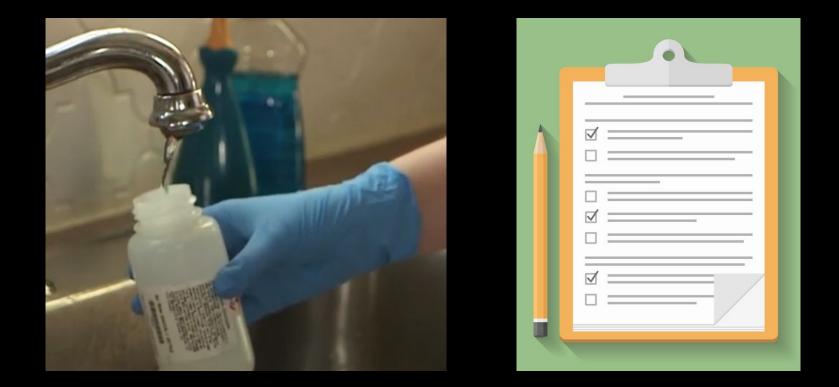
NouTub



Sep 25, 2020, 3:26 PM

Anpetu Waste. This is Frankie from the Strong Heart Water Study team. We hope all is going well with your filter faucet. Please click on the link to view a short video with a few reminders about your filter faucet. If you have any questions, please call or text me at this number. https://www.youtube.com/ watch?v=fN\_PA4OB2VQ

#### Contactless Water Sample Testing



#### STRONG HEART WATER **STUDY** INVESTIGATORS

#### **Principal Investigators**

- Christine Marie George (Johns Hopkins School of Public Health)
- Ana Navas-Acien (Columbia University)

#### **Missouri Breaks Industries Research Inc**

- Marcia O'Leary
- Lyle Best
- Marie Gross
- Tracy Zacher

#### Johns Hopkins Bloomberg School of Public Health

- Elizabeth Thomas
- Martha Powers
- Joel Gittelsohn
- Allison Barlow

- Annabelle Black Bear
- Francine Richards
- Christa Cuny
- Leslie Skinner
- Lisa Bear Robe
- Larry Moulton
- Kellogg Schwab
- Ana Rule
- Camille Morgan
- Khaled Hasan

#### STRONG HEART WATER **STUDY** INVESTIGATORS

#### **Environmental Consultants**

- Reno Red Cloud
- Robert Thompson
- Carlyle Ducheneaux

#### **Indian Health Service**

- CAPT David Harvey
- CAPT Rohlfs
- CAPT Boland
- Commander James Begeman
- Commander Kris Neset

#### **Tribal Housing Authorities**

#### MedStar Health Research Institute

- Jason Umans
- Barbara Howard

# WOPILA!

# **QUESTIONS?**