



Strong Heart Study Newsletter

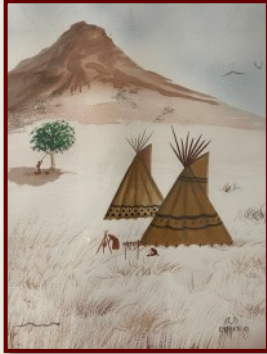
Investigating Cardiovascular Disease in American Indians

Updates for Community Members and Strong Heart Study Participants

Volume 35, Issue 2 Fall 2025

SOCIAL SUPPORT AND BLOOD SUGAR CONTROL IN DIABETES

Having people in your life who care about you is important for your health. This could be your family, friends, neighbors, or teachers. Having strong relationships with others can help lower stress and reduce the chance of feeling depressed, anxious, or lonely. It can also lead to healthier habits, like eating well and getting exercise. Some new studies show that having strong and healthy relationships with others is good for your heart. However, we don't know much about how social support affects blood sugar in people with diabetes.



Researchers of the Strong Heart Study aimed to find out if people with diabetes who had more social support also had better control of their blood sugar. Between 2001 and 2003, study participants answered questions about social support. For example, they were asked: "Among the people you know, is there someone who would lend you a car or drive you somewhere if you really needed it" and "Among the people you know, is there someone you can go with to play cards or go to bingo, a powwow, a community meeting?" The answers helped show how much social support the study participants usually had.

The researchers also used blood samples from that time to check participants' blood sugar levels using a test called HbA1c. The study found that people with diabetes who had more social support had lower HbA1c levels, meaning better control of their blood sugar. This was true even after looking at other things like their diet, smoking habits, and cholesterol. Having more social support may help people with diabetes manage their blood sugar. (This study was led by Ms. Lauren Sawyer and Dr. Amanda Fretts at the University of Washington, Seattle)

THE ASSOCIATION BETWEEN SMOKING AND LUNG FUNCTION REVEALED BY CELLS



We are proud to share the publication of two groundbreaking papers that highlight the harmful

effects of smoking and its connection to tiny particles called EVs in the blood. These studies are the result of extensive efforts to find better ways to detect lung damage, offering hope for early intervention and improved treatments.

The first paper, "Extracellular vesicle-encapsulated microRNA signatures of cigarette smoking and smoking-related harm," reveals how smoking is linked to these small particles released by cells into the bloodstream. These EVs can flag for smoking-related harm.

Building on this, the second paper, "Extracellular vesicle-encapsulated microRNAs and respiratory health among American Indians in the Strong Heart Study," connects EVs to lung function and breathing problems. It suggests that measuring these particles in the blood could help detect and treat lung damage.

These findings are a significant step forward in understanding the impact of smoking on lung health. The Strong Heart Study team is excited to share this research, which has the potential to help many people, that experience high rates of chronic respiratory diseases. These studies represent not only a scientific achievement but also a commitment to improving health outcomes for those most affected by smoking-related harm. (Both studies were led by Dr. Christina Eckhardt at the Columbia University)

If you'd like to read more about these findings. You can find each article in the QR codes below!

Article #1



Article #2



WELCOME KATERI DAFFRON!

Kateri Daffron is an undergraduate student participating in the Summer Undergraduate Research Program (SURP) at the University of Oklahoma Health Sciences. SURP is aimed at preparing undergraduate students to pursue careers in health-related fields. Through SURP, Kateri is completing a 9-week, hands-on research experience at the Center for American Indian Health Research under the direction Dr. Jessica Reese.

Kateri is enrolled in the Wichita and Affiliated Tribes and is also Kiowa and Comanche from Anadarko, Oklahoma. She comes from the Bates, Paddelty, Torralba, and Davilla families. When she returns to the University of Oklahoma in the fall, Kateri will start her third year of studying psychology on a pre-medicine track.

She and her family have been affected by heart disease and the prevalence of diabetes in her community. Her family has experienced the issues researched in the Strong Heart Study and benefited from the representation of American Indian health research that the Strong Heart Study provides.

She is passionate about tribal public health and the role of research sovereignty in Indigenous communities. We wish Kateri success in realizing her dream of becoming a health care professional.



THE STRONG HEART AIR QUALITY STUDY

What Is Strong Heart Air Quality Study?

The Strong Heart Air Quality Study is being conducted in American Indian communities across Oklahoma, Arizona, and South Dakota. Its goal is to better understand air pollution in these regions and how it may affect heart health.



The study focuses on fine particulate matter, known as PM2.5, tiny particles in the air that are 2.5 micrometers or smaller in diameter. For perspective, a single human hair is

about 70 micrometers wide. Because of their small size, these particles can be inhaled deep into the lungs and enter the bloodstream, where they may contribute to heart problems.

What Does Participation Involve?

- **Air Quality Monitoring**
Air monitors are placed inside and outside participants' homes for one week during each of three seasons. These devices measure PM2.5 levels, and filters are collected for chemical analysis.
- **Blood Pressure Monitoring**
Participants wear an ambulatory blood pressure monitor on their arm for 24 hours during each air monitoring period to track how their blood pressure responds to air quality.
- **Air Quality Questionnaire**
Participants complete a questionnaire about possible sources of indoor and outdoor air pollution, such as heating systems, cooking methods, use of kitchen ventilation, and nearby fires.

- **24-Hour Diary**

During each 24-hour blood pressure monitoring period, participants keep a simple diary. They record sleep times, any temporary removal of the monitor, time spent in different locations (indoors/outdoors, at home or away), and possible sources of indoor and outdoor air pollution.

Who Can Join?

Strong Heart Family Study (SHFS) participants who are currently between 35 and 54 years of age, and American Indian community members (not previously in SHFS) who are between 35 and 54 years old.

Why This Study Matters

This research is one of the first to explore the connection between air pollution and heart health in American Indian communities. The results will help guide tribal and public health efforts to improve both air quality and heart health.



To Learn More or Sign Up, Please Contact:

- ♦ **Arizona Center:** 602-277-0488
- ♦ **Anadarko Office:** 405-247-1029
- ♦ **Lawton Office:** 580-353-1163
- ♦ **Oklahoma City:** 405-271-3090 Ext. 47728
- ♦ **South Dakota Center:** 605-964-1260

Rooted in Culture, Growing Knowledge: A Strong Heart Study Community Partnership with Scottsdale Community College

The Arizona Strong Heart Study Field Center (AZFC) was invited to present and facilitate learning experiences at the Jr Ace Program hosted by Scottsdale Community College (SCC). AZFC researcher, Samantha Ishak Heywood, is a member of the Salt River Pima Maricopa Indian Community (SRPMIC) who has a passion for scientific outreach and has aided the Jr Ace program in years past including bringing the SHS team into the program. Jr Ace aims to introduce 5th-8th graders to the college learning environment and future educational pathways. Jr Ace is a collaborative effort through SCC and SRPMIC.



This year, the program embraced the theme: *Rooted in Culture. Growing Knowledge. Building Strong Futures.* AZFC outreach coordinator, Celina Mahinalani Garza, tailored a culturally rich program that combined culture, science, and health.

The program opened with a heartfelt blessing song from community member Bowie Leonard, whose presence and words offered encouragement and connection. His song, rooted in community and tradition, set a beautiful tone for the days ahead. SCC's uplifting mascot Artie the artichoke and President Dr. Eric Leshinskie's upbeat welcome peaked student interest in higher education.

AZFC staff members, Samantha Ishak Heywood, Alicia Garza and Nicole Amodio taught two sessions to students. They gave a brief introduction to wilderness first aid,

allowing students to go home with a first aid handbook and a first aid kit. AZFC staff led practice scenarios where students demonstrated and practiced first aid skills.

The second presentation demonstrated work of the Strong Heart Study by showcasing student pathways to a career in research, the impact and history of Indigenous research, and the importance of Strong Heart Study findings.

Strong Heart worked with community partners to introduce a wide variety of topics including requesting presentations about O'odham and Piipaash cultures including language and traditional foodways.

Another SHS collaborator, Jared Butler Sr, who works in the Cultural Resources Department Community Garden spoke about farming, crops, and culture. He brought in seeds, gourds, and various plants used medicinally or nutritionally to show the students. Though the program was brief, the impact was meaningful—for our students, our team, and our shared community. Reflecting on this year's experience, we look to the future with hope and determination. The Salt River Jr. ACE Program continues to grow, rooted in community and culture, expanding knowledge, and helping students build strong futures for themselves and their people.



STRONG HEART STUDY COORDINATING CENTER
University of Oklahoma Health Sciences Center
Center for American Indian Health Research
College of Public Health
P.O. Box 26901
Oklahoma City, OK 73126-0901

NON-PROFIT ORGANIZATION
U.S. POSTAGE
PAID
UNIVERSITY OF OKLAHOMA

She Inspired People

Linda Poolaw, A Beloved and Respected Member of the Strong Heart Study

Linda Poolaw (April 8, 1942 – February 27, 2025) began contributing to our research in 1986, participating in the Oklahoma Diabetes Study. Since then until her retirement, she worked tirelessly for the Strong Heart Study (SHS) and other projects at the Center for American Indian Health Research (CAIHR), as a recruiter, cultural adviser, and a bridge between the CAIHR and the Oklahoma Indian communities. She taught us about Indian culture and contributed significantly to the success of our research.

Linda was recruiting participants for a research project when I first met her in the hallway of the CAIHR on the OU Health Sciences campus. She nearly recruited me when she started talking about the SHS. She showed me an SHS T-shirt and told me that we used it as a recruitment incentive. We struck up a conversation about tribal partners in the SHS. I was impressed by Linda's warm demeanor and extensive knowledge and passion about her people.

I continued to have conversations with Linda, in focus group meetings, in a hospital room, or at community gatherings. The content of those conversations has faded from memory, but I always felt wiser and learned something new each time I spoke with Linda. She was warm, kind, and eager to share her life experiences and knowledge with me, a newcomer to the SHS who wanted to learn everything Linda knew. I also enjoyed her great sense of humor.

What Linda did not tell me was her accomplishments, which I later learned. Linda was a woman of extraordinary and unwavering dedication. From serving as a guide at Indian City USA to Chief of the Grand Council. Then becoming the first female President of the American Indian Exposition and holding key roles at Delaware Nation, her passion for her work was unmatched. She fought for reparations and preservation, always with the people's best interests at heart. She had a lifelong mission in improving the health status of the American Indians.

Working with someone so deeply committed to her mission was an honor. Linda inspired us. We are very grateful to have had Linda as a colleague, friend and adviser. She will be missed. (Ying Zhang for the Oklahoma SHS Team)

