



# Strong Heart Study Newsletter

Investigating Cardiovascular Disease in American Indians

Volume 25, Issue 1 Spring 2016

## STRONG HEART STUDY COMMUNITY MEETING AT WICHITA TRIBAL COMPLEX

A Strong Heart Study (SHS) community meeting was held in the Senior Center of the Wichita and Allied Tribes near Anadarko, OK on October 28, 2015. The community meetings are designed to share information directly with local tribal members and to hear concerns and observations by community members. SHS investigators are committed to the doctrine that community based research requires continued face to face discussions with local communities.

The Wichita Tribal Complex was chosen as the meeting site in order to focus on members of the Wichita and Affiliated Tribes (Wichita, Keechi, Waco, and Tawakoni), Caddo, and Delaware whose reservation was located along the north bank of the Washita River in what is now southwest Oklahoma.

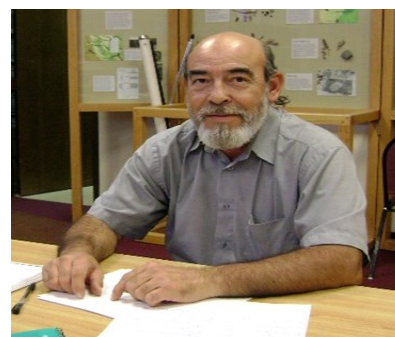
The meeting began with a lunch prepared by the staff of the Wichita Seniors Center. Mrs. Terri Parton, President of the Wichita and Affiliated Tribes presided.



President Parton (left) at a recent meeting of the Southwest Oklahoma Intertribal Health Board along with Jennifer Reader, Secretary of the Caddo Nation (center) and Captain Greg Ketcher, CEO of the Lawton Service Unit of the Indian Health Service.

After welcoming guests and introductions, Mr. Gary McAdams, the previous President and current cultural curator, presented a historical overview of the Tribes. These Tribes and their Caddo relatives occupied wide expanses of what became parts of the states of Louisiana, Texas, Oklahoma and Kansas. Their numbers became decimated as a result of introduced diseases and encroachment but in their case

particular displacements resulting from the Civil War in the west. In 1872, after repeated requests of the Tribes, a reservation was made available in their ancestral homelands located along the north shore of the Washita River with an Agency located near where the future town of Anadarko was established.



Mr. Gary McAdams

Dr. Shelley Cole, Chairperson of the SHS Steering Committee, provided an overview of the SHS, with an emphasis on the recently funded Phase VI. The beginning 4549 participants are known as the “original cohort”. The Strong Heart Family Study (SHFS) begun in 2000 permitted the examination of younger individuals as well as permitting the institution of family and genetic studies related to heart diseases.

Dr. Dorothy Rhoades outlined projected SHS approaches to cancer studies, which is one of the major advances possible in Phase VI.

The community meeting permitted the introduction of Dr. Mona Puggal, SHS Program Official for the National Heart Lung and Blood Institute, which funds the Strong Heart Study (see article on Ms. Puggal on page 3).

Another special visitor was Dr. Larissa Avilés-Santa, National Heart Lung and Blood Institute Project Officer for the Hispanic Community Health Study (HCHS)/Study of Latinos (SOL) or (HCHS/SOL).

## **STRONG HEART STUDY PHASE VI PROGRESS REPORT**

The Strong Heart Study (SHS) was first funded in 1988. In the first 5 funding phases of the SHS, participants had an exam in a clinic. There, information was collected and measured on risk factors for heart disease and diabetes. These risk factors included such things as measures of blood pressure and the heart, and the amount of sugar in the blood. SHS investigators asked participants to answer a series of questions about their health. Investigators have also continuously reviewed medical records for information on diagnoses and treatment of heart-related illness.

In 2013, the SHS was awarded its 6th phase of funding. In SHS phase 6, participants are again being asked to answer questions about their health, and patient medical records are continuing to be reviewed. However, SHS phase 6 is different than previous phases in two important ways. In SHS phase 6, participants do not have an exam in a clinic. The second difference is that participants are being asked to allow SHS investigators to collect information on other diseases that are affecting SHS communities, besides heart disease and diabetes. These include cancer, liver-related disease and diseases due to inflammation such as lupus, as

well as other illnesses. SHS field staff are making good progress in contacting SHS participants to join SHS phase 6. They have already contacted more than half and asked them to answer questions about these additional conditions. Collecting this information will allow investigators to begin to study these conditions.

While SHS phase 6 doesn't have an exam, investigators are actively using SHS data already collected to answer additional questions regarding heart disease. Two of these studies are described in this newsletter; 1. the Strong Heart Stroke Study and 2. results of an investigation of eating processed meats and risk of diabetes. Additional studies will be described in the coming newsletters. The SHS remains a very active study, due to the participation of its tribal partners and communities.

Questions about the SHS phase 6? Please contact the following individuals at your SHS Centers:

Oklahoma: Lawton—(580) 353-1163 Anadarko—Nicole Asepermy (405) 247-1023 Melinda Shackelford (405) 247-1002 Arizona: Callen (602) 277-0488 Dakotas: Marcia O'Leary (605) 964-3418

## **A FAMILY BASED APPROACH TO PREVENT STROKE**

From 2010-2013, the Strong Heart Stroke Study (SHSS) conducted new examinations of more than 1,000 surviving SHS participants. These examinations included brain image scans and tests of thinking abilities. The goal was to see how common certain brain conditions are in our Native communities. Findings from this study showed that our communities had very high prevalence of stroke. Also, findings showed high levels of risk factors for stroke. These risk factors are things like diabetes and high blood pressure. These findings motivated researchers to do a study to see if changes can be made at the household level to reduce risk of having a stroke. Researchers with Washington State University's Partnerships for Native Health team proposed to use a "Family Intervention in The Spirit of Motivational Interviewing" (FITSMI) to help people make household lifestyle changes to reduce the risk for stroke risk in Indian Country. The study is comparing groups who complete the FITSMI interview, delivered in the format of a talking circle, to a group provided with basic information, but no FITSMI interview in a talking circle. Participating households have an equal chance of being in either group. The goal is to find out if taking part in the interview can help people live healthier lives, with reduced risk of having a stroke.

The people participating in the interview will receive personal feedback about their risk of stroke for their family members 45 and older. This risk will be based on questionnaires, blood, and urine tests that are done right in the participants' own homes. Following the feedback about stroke risk, they will view digital stories showing the effects of stroke in two Native families. After that, they will participate in a talking circle about how to reduce risk of stroke for everyone in the household. This first session is followed by a "check-in" talking circle one month later. Then, stroke risk is assessed again one year after the first session. The families in the comparison group will receive printed information about reducing stroke risk.

At first, only people who participated in the Strong Heart Family Study are eligible to participate in the study. But soon we will be expanding the opportunity to the wider community. Participants are compensated for their time at each visit. We hope this will be a first step toward reducing the effects of stroke on families in Indian Country. We also hope we can help to improve the lives of all of our community members.

If you are American Indian or Alaska Native, over the age of 45, and interested in participating, please contact the office

below that is nearest to you!

Oklahoma: Scarlett Albertson

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South Dakota: Marie Gross

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Arizona: Diane Hollowbreast

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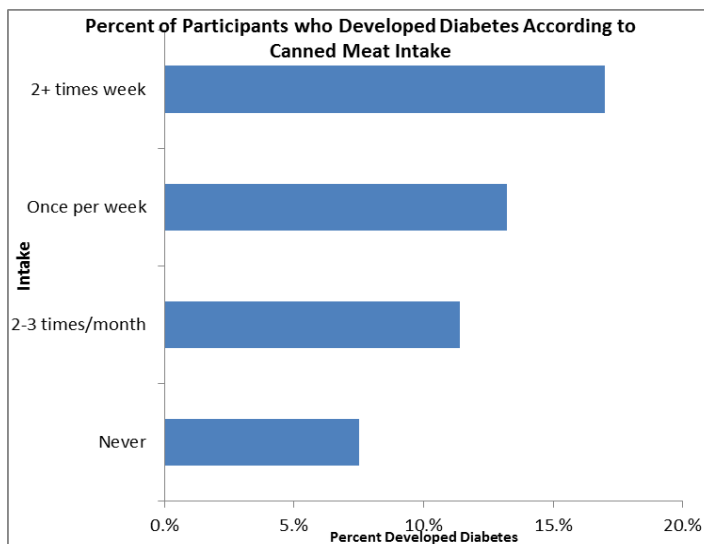
## PROCESSED MEAT CONSUMPTION AND DIABETES

Many people know that eating a healthy diet and exercising may help prevent many diseases, such as heart disease, diabetes, and cancer. But understanding what kinds of food are healthy or unhealthy is often confusing. Recently, scientists have determined that eating processed meats (foods like hotdogs, bacon, sausages, lunch meat, and spam) increases the risk of cancer. Many doctors are asking their patients to eat fewer processed meats to prevent cancer. Many studies have also shown that eating meat may increase risk of developing diabetes. New research in the Strong Heart Family Study shows that eating processed meat may increase risk of diabetes, while eating unprocessed red meat (foods like pork chops, pork roast, dinner ham, veal, lamb, deer, ribs, hamburger, cheese burger, roast beef, steak, and organ meats) has no effect on risk of diabetes.

At the 2001-2003 Strong Heart Family Study exam, participants were asked questions about different types of foods they eat. Then, at the 2007-2009 exam, participants were tested for diabetes. Participants who ate processed meats two or more times per week had a 63% higher risk of diabetes compared to participants who ate processed meats less than once a month. Eating spam was associated with a particularly high risk of diabetes. Compared to participants who never consumed spam, participants who consumed

spam at least two-times per week were twice as likely to develop diabetes. Eating unprocessed red meats had no effect on diabetes risk.

The findings suggest that consumption of processed meat, but not unprocessed red meat, is associated with higher risk of diabetes. Community based efforts to people on how to follow a healthy diet and avoid processed foods like spam could contribute to diabetes prevention.



## MONA PUGGAL BECOMES THE NHLBI PROGRAM OFFICIAL FOR THE STRONG HEART STUDY

Mona Puggal recently assumed the position of Program Official for the Strong Heart Study (SHS), replacing Dr. Richard Fabsitz who had been with the SHS since its inception. Richard retired from the NIH in December 2014 and is currently an adjunct professor at George Mason University.

Mona has been with the NHLBI for eight years. Mona was raised in New Mexico where she also attended college. She worked in industry for several years before pursuing her graduate education at Boston University. She worked for the Framingham Heart Study while attending graduate school and then joined the NHLBI. Her experience with the Fram-

ingham Heart Study is particularly pertinent to the SHS as it resembles the Framingham study in many ways. Mona enjoys spending time with her family and traveling. The SHS investigators look forward to a warm and long standing relationship with Mona as it strives to meet the challenges associated with Phase VI.

The Program Official is the designated formal link between the SHS and the funding agency and provided invaluable guidance and information over the years.



Mona Puggal

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## STRONG HEART STROKE STUDY FINDINGS

The risk of stroke and brain disease are a worry for many people. Native communities are at particularly high risk of stroke, compared with other U.S. groups. Researchers are actively trying to understand why this is, and what might be done to prevent it. To do this, we need to know more about how stroke occurs, as well as more about brain disease conditions that are similar to stroke, but which occur even more frequently. Such disease conditions might occur before stroke, or they might occur outside of stroke, but still carry the same long-term outcomes, such as loss of thinking or physical abilities.

From 2010-2013, the Strong Heart Stroke Study (SHSS) conducted new examinations of more than 1,000 surviving participants, including brain image scans and cognitive testing, to see how common these brain conditions are in our Native communities. SHSS researchers are using these data to see what factors might be related or lead to brain disease, which will give us clues about how to avoid brain disease in future generations.

Researchers have found that a condition similar to stroke, but which does not necessarily have symptoms—called “vascular brain injury”—is more common than stroke. Approximately 1 in 10 participants reported having had a stroke, but more than 3 in 10 were found to have a type of vascular brain injury called “infarcts”. Other types of vascular brain injury, such as “white matter lesions”, were found

in more than half of all participants, which is consistent with findings in studies of older Europeans. These vascular brain conditions were more common with older age. Sometimes, these brain conditions were more common in men, although this relationship was inconsistent. The findings of this research suggest that vascular brain injury is a condition that affects many elders, even without symptoms of stroke being present. Research efforts to understand why this is, and how to avoid these conditions or their effects, are currently underway.

SHSS investigators are grateful to the continued support of all SHS participants, and hope that better information about these conditions will improve both quality and length of life for Native communities in years to come.

Proportion of Strong Heart Study participants with infarcts, by age and sex

