# STRONG HEART STUDY

INVESTIGATING CARDIOVASCULAR DISEASE IN AMERICAN INDIANS

# newsletter

Volume 16, Number 1

May 2004


## *The Remembrance*
## ...10 years later

On February 28, 2004 there was a gathering at the Mother Butler Center in Rapid City, South Dakota to honor the 3 physicians who lost their lives in a tragic plane crash on February 24, 1994. The doctors routinely traveled by plane to various Aberdeen Area Indian Health Services (AAIHS) clinics and hospitals providing clinical and preventive consultation and performing research designed to improve the health of American Indians. The Remembrance was a celebration of the accomplishments, contributions, and the lasting influence these medical doctors have had on the health of the Northern Plains Indians.

### The Community Presents Beautiful Quilts

Left to right: Dr. Michael Trujillo, Jennifer Brown (Dr. Oopik's wife), Carole Anne Heart, Diane Vlassis (Dr. Krogh's wife), Katrina and Chris Krogh, Jennifer Blair (Dr. Stahn's wife), and Chai and Nathaniel Blair-Stahn. Foreground: Drs. Edith and Tom Welty.

### Master of Ceremony Rev. Simon Looking Elk

Master of Ceremony, **Rev. Simon Looking Elk,** Pastor, Porcupine Presbyterian Church, Porcupine, SD. Speakers, seated on stage from left to right: **Dr. Tom Welty**, Co-investigator, Strong Heart Study, Dakota Center, SD, **Dr. Michael Trujillo**, former Director of Indian Health, Albuquerque, NM, **Ms. Carole Anne Heart**, Executive Director, Aberdeen Area Tribal Chairmen's Health Board, Rapid City, SD, **Rev. Webster Two Hawk**, Pastor, St. Peter's Episcopal Church, Pierre, SD, **Rev. David Cameron**, Pastor, Emmanuel Episcopal Church, Rapid City, SD, **Mayor Jim Shaw**, Mayor of Rapid City, SD, and **Ms. Marion Zenker-Opdyke**, Unitarian Universalist Fellowship, Rapid City, SD.

Prayers and words of encouragement were offered by colleagues and community spiritual leaders, as well as special music, song, and sharing of gifts. The community presented beautiful quilts to Jennifer Brown, Dr. Oopik's widow; Jennifer Blair, Dr. Stahn's widow; and Diane Vlassis, Dr. Krogh's widow and to their children, as well as to Drs. Tom and Edie Welty. During a remembering time, family and community members shared experiences they had with the doctors.

*Continued on next page...*

## ...Remembering the Doctors

**Dr. Arvo Oopik** provided excellent clinical care as an IHS cardiologist (heart specialist), and he was also a co-investigator for the Strong Heart Study (SHS). Dr. Oopik and his colleagues at Fitzsimmons Army Hospital in Denver read 4500 EKGs from SHS participants. The analyses of the results of the study led to publication of over 50 scientific articles that have greatly advanced the knowledge of cardiovascular disease among American Indians. Dr. Oopik was also a devoted husband and father of 4 children, Krista, Krisana, Kasey, and Kara. The SHS was honored to have Dr. Oopik's eldest daughter, Krista, visit them in 1999 and 2000.

**Dr. Ruggles Stahn** was the AAIHS Diabetes Control Officer, the principal investigator of the Prevention of Diabetes study in the Winnebago and Omaha Tribes, as well as a co-investigator of the PATHWAYS study of prevention of obesity in Indian children. Through these studies, we now know that there is no magic bullet to prevent obesity and diabetes. Rather, the best hope is to put into action coordinated community and clinical programs that focus on preventing these diseases. Dr. Stahn was an excellent mentor for many students who worked with the Diabetes Control Program. Dr. Stahn was also a devoted husband and father of 3 children, Nathaniel, Chai and Zia.

**Dr. Christopher Krogh** was the Maternal and Child Health Consultant for AAIHS and the Northern Plains Healthy Start Program. At the time of his death, he was working with the tribes to design and carry out the Aberdeen Area Infant Mortality Study. His colleagues completed this study, and the results were recently published. The Study found that maternal alcohol use and over-bundling of infants increased the chance for Sudden Infant Death Syndrome, whereas visits by public health nurses helped prevent it. He played a vital role in the efforts to understand and prevent fetal alcohol syndrome. Dr. Krogh served as an excellent mentor for many students. He was also a devoted husband and father of 2 children, Christopher and Katrina.

A special thanks to all who contributed their tireless efforts to organize this wonderful Remembrance Celebration, and also to all who participated and attended.

Gathering

Above, left to right: Jennifer Brown (Dr. Arvo Oopik's wife), Carol Ann Heart, Diane Vlassis (Dr. Chris Krogh's wife), Katrina and Chris Krogh, Jennifer Blair (Dr. Ruggles Stahn's wife).

The Wives

Left to right: Diane Vlassis (Dr. Chris Krogh's wife), Jennifer Brown (Dr. Arvo Oopik's wife), and Jennifer Blair (Dr. Ruggles Stahn's wife).

## The Future...

One of the speakers, Dr. Tom Welty, closed his remembrance of the doctors by looking to the future: "The visions they had for improving the health of Northern Plains Indians have been partially implemented. Four organizations will need to make coordinated efforts to bring their dreams to reality in the future: The Aberdeen Area Tribal Chairmen's Health Board Epidemiology Program, The Black Hills Center for American Indian Health, Missouri Breaks Industries Research, Inc., and the Indian Health Service. These four organizations should complement each other and not compete, so that the skills of their staffs can be used optimally to improve the health of American Indians. I encourage the leaders of these organizations to meet regularly and coordinate their efforts, so that they can quickly translate the results of research into health improvements for Indian people. Such cooperative efforts will be critical to fulfilling the dreams of Arvo, Ruggles, and Chris and to building upon the foundation they began.

*SHS*

# Alarming Rates of Risk Factors Found in Young Adults

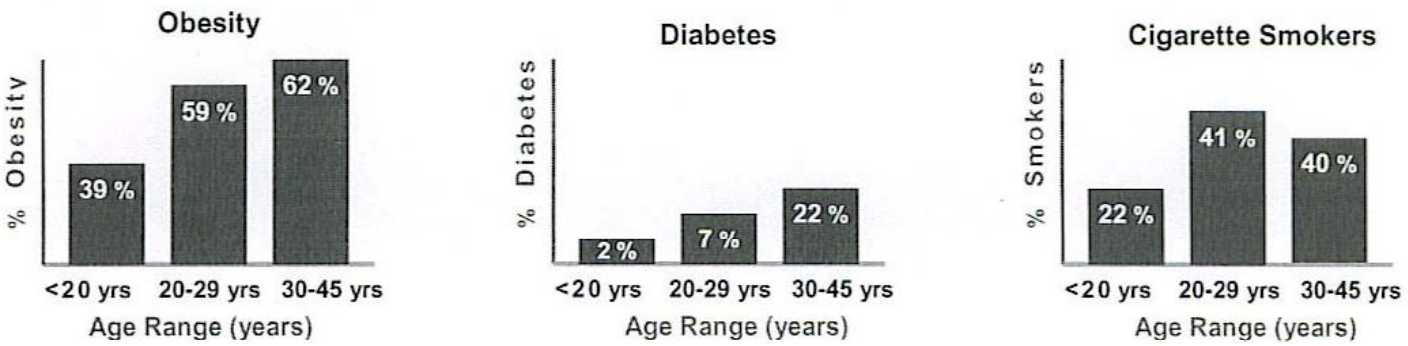
For the past 16 years, the Strong Heart Study (SHS) has been examining cardiovascular disease (CVD) in American Indians from 13 tribes/communities in Arizona, the Dakotas, and Oklahoma.

Unfortunately, SHS has found that CVD is now more common among Indians than before and the problem is getting worse, year-by-year. It is known that both obesity and diabetes increase a person's chance of developing CVD. The SHS has been examining the relationship of these two health problems to CVD and trying to find out what *other things* (other risk factors) might contribute to it.

The first round of analyses of information gathered during Phase IV of the SHS is in. Alarming rates of obesity and diabetes were found in young family members (see charts below).

**STRONG HEART STUDY, FAMILY STUDY (PHASE IV)**

PRELIMINARY DATA




Around 60% of young adults between the ages of 20 – 45 years are obese. Around 7% of the 20 – 29 year olds have diabetes, while an astounding 22% of those between the ages of 30 – 45 years have the disease.

This seems to be part of the reason that CVD is a growing problem among Native Americans. As mentioned above, both obesity and diabetes are known to increase a person's risk of developing CVD. Worse yet, young adults, particularly between the ages of 20 – 45 years, had high rates of *other* risk factors (smoking, drinking alcohol, and high blood pressure), further increasing their chances of developing CVD. For example, 22% of those under 20 years old smoke cigarettes, but this increases dramatically to around 40% for young adults between the ages of 20 – 45 years. (See chart above.)

There seems to be a sort of snowball effect. As we all know, the more risks we take (i.e., the more we stack the odds against us), the more likely it is some bad things will happen to us (in this case, a heart attack, stroke, or worse).

It is possible that Indian populations may be genetically more prone to the influence of certain environmental factors, such as diet. The extremely high rate of diabetes in most Indian communities suggests that searching for genetic links of diabetes and CVD in the SHS may be particularly fruitful. The knowledge gained through all of the Strong Heart Studies will allow tribal leaders to promote healthier lifestyles for their communities, especially for the younger generations.

*SHS*

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 73190-3040

Non-Profit Organization
U.S. Postage
**PAID**
Oklahoma City, Oklahoma
Permit No. 220



## Why Study *Psychosocial* Factors in Cardiovascular Disease Research?

Did you ever wonder why the Strong Heart Study includes such questions as: *How do you feel about yourself? How do you feel about others? Do you feel you have control of your health? Do you feel calm and peaceful? Do you keep your anger inside?*

These are examples of psychosocial questions. The prefix, "psycho" simply means your *mind*, while "social" refers to relating to *other people*. These questions are designed to measure the effects of psychosocial issues on cardiovascular health.

Historically, as the quality of life and the standard of medical care have continued to improve in the United States, the nature of the diseases that impact our nation have changed. At the turn of the 20th century, infectious diseases, such as small pox or tuberculosis, were the leading cause of illness and death. At the beginning of the 21st century, the diseases that impact our population have clear-cut behavioral and psychological workings. The probability of developing heart disease, cancer, or diabetes mellitus is influenced by the behaviors that people either practice or fail to practice throughout their lives. Other behaviors such as eating habits, substance abuse, activity levels, and unsafe sexual practices have been shown to be highly related to long term disease and death rates, as well as lowering a person's overall quality of life.

New pathways have been discovered and are currently being researched, finding that a person's overall mental health, frame of mind (anger, anxiety, depression, for example), social support system, and psychological adjustment to life, both acute (having a sudden onset) and chronic (long-term or always present), can directly affect the path a disease takes. Understanding psychosocial variables – or feelings, things, and events that influence each one of our choices - and how each choice we make plays a part in what path a disease might take, for better or for worse, is very important if we are to continue improving standards of care and the overall quality of life of people.

Certain Native American tribes have been harder hit by diseases that have strong psychosocial ties than have other groups. For example, the highest known incidences of diabetes in the world are found among Southwestern United States tribes. Yet, thus far, there has been little research exploring how psychosocial factors impact the health (either good or bad) among Native American populations. This is why the Strong Heart Study asks psychosocial questions during their interview with participants. Hopefully this information will lead to new understandings about how the human thought process, along with behavior, may help to fight these diseases that currently appear in high rates in the American Indian population.

*SHS*