

STRONG HEART STUDY

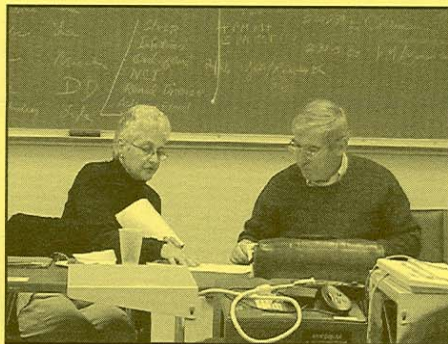
newsletter

INVESTIGATING CARDIOVASCULAR DISEASE IN AMERICAN INDIANS

August, 2001

Volume 13, Number 1

Steering Committee Meets and Staff Train for Phase IV



With data collections for Phase IV of the Strong Heart Study scheduled to begin within weeks, researchers and field center staff met for five days in Oklahoma City January 29 - February 2. The Center for American Indian Health Research, which serves as the coordinating center for SHS, hosted the meeting at the University of Oklahoma College of Public Health. Researchers and staff attended meetings, lectures, training sessions and events geared toward preparing for the new study.

SHS steering committee members led sessions dealing with the new study's forms, screenings and laboratory procedures. In addition, staff from all centers trained and passed certification requirements in all Phase IV procedures. Sessions included taking blood pressures, conducting interviews and drawing blood. Although most staff have previous experience performing these functions with the Strong Heart Study, the training

insured that all the data gathered from Phase IV's 120 families is collected in the same way at every center.

Other related presentations were included in the meeting's agenda. Dr. Linda Burhansstipanov, Director of Native American Cancer Initiatives, Inc., spoke to the group on issues of genetic research among ethnic groups. She also joined a group of SHS staff in a panel discussion dealing with cultural concerns and recruiting study participants.

Dr. Spero Manson, director of the Native Elder Research Center in Denver, spoke on the Young American Indian Investigator training program. Dr. Paul Spicer also of the NERC, introduced a new national genetics-related project. Drs. Manson and Spicer joined the group's discussion of issues related to the Phase IV psychosocial forms.

SHS field center staff returned to their centers ready for Phase IV's start in March, 2001.



Upper row
Left, Annette Rave shows proper blood drawing technique with Dakota Staffer Jay Kurf. Right, Barbara Howard confers with Richard Fabsitz
Above, top to bottom, Shannon Proctor (left) and Stephanie Gomez (right) prepare for training.
Chani Phillips (left), Wendy Lawrence (center), and Lillian Brown (right) compare notes.
Linda Poolaw (left) practices interview techniques with Annette Rave.

Community Members and SHS Researchers Meet



Left, Dr. Lee admires the ceremonial blanket presented to her at the community meeting in Carnegie, Okla.

Above, SHS group tours Indian City, USA. Back row, left to right, Richard Fabsitz, Tom Welty, Betty Jarvis, Kari North, Jeunliang Yeh, Wendy Lawrence, Leon Kalbfleisch, Tauqeer Ali, Carl Schaefer, Lee Keesee, Lyle Best, Jay Kurf. Front row, Ditas Fallis, Joy Jones, Barbara Howard, Elisa Lee, Indian City USA tourguide Elton Stumblingbear, Annette Rave, Ying Zhang, and Marcia O'Leary.

Researchers and staff attending the SHS Phase IV training conference enjoyed meeting members of the Oklahoma tribes at the Kiowa Tribal Complex in Carnegie, Okla., January 31. Oklahoma field center coordinator Dr. Tauqeer Ali, and recruiters Linda Poolaw and Juanita Cortez planned and coordinated the event. The Oklahoma field center sponsored the luncheon meeting; David Geimausaddle, and his staff prepared lunch for the group of 150. Geimausaddle is the director of the Kiowa Tribal Administration on Aging.

Presiding over the program were Dr. Everett Rhoades, Ms. Ruey Darrow, Chair of the Ft. Sill Apache Tribe and Seven Tribes' Health Board, and Mr. Billy Evans Horse, Kiowa

Tribal Chairman. After an opening prayer and welcome by Chairman Horse, Richard Fabsitz, National Heart, Lung and Blood Institute Project Officer for SHS, gave an overview of the Strong Heart project. Dr. Elisa Lee shared some study results with the group and Dr. Jean MacCluer told the gathering about the Phase IV family study. Drs. MacCluer, Lee, Best, Howard and Rhoades answered questions posed by the community members.

A highlight of the event was the surprise robing ceremony for Dr. Lee. Chairman Horse expressed gratitude for Dr. Lee's many years of interest and research in American Indian health. He presented her with a traditional ceremonial blanket in honor of

her commitment and work.

"I have always enjoyed working with the tribes and have been very grateful for their support. Our research relies on continued tribal participation and the dedicated efforts of our outstanding field staff to do this important work," Dr. Lee commented.

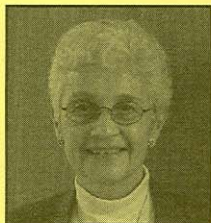
"All of us with the Strong Heart Study deeply appreciate the warm welcome provided by the community. We would especially like to thank Chairman Horse and his excellent staff for hosting this very memorable meeting," she added.

After the luncheon, the SHS group toured Indian City, U.S.A., a museum of restored American Indian dwellings located in Anadarko, Okla.

Steering Committee approves substudies

Haptoglobin

Dr. Barbara Howard explains haptoglobin analysis



Barbara
Howard

When Strong Heart Study participants were examined, a small portion of the blood drawn during the exams was stored frozen at the SHS central lab. Participants consented that this stored blood could be used for later tests. Recently, Dr. Andrew Levy has found new evidence of important health effects of haptoglobin, a blood protein that can exist in three different forms in people. Haptoglobin may protect cells of the body from a type of damage called oxidation. Dr. Levy found that one of the three forms of haptoglobin may not be effective in

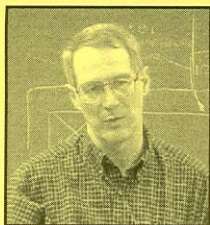
preventing such damage in people with diabetes and that diabetics with this third type of haptoglobin have vascular (blood vessel) complications more often than diabetics whose blood contains one of the other two types. Dr. Levy can identify the type of haptoglobin using a very small amount of blood plasma. To learn more about haptoglobin and its effects on cardiovascular disease in general, SHS has sent 400 samples to Dr. Levy for analysis – 200 samples from SHS participants with heart disease and another 200 samples from participants without

heart disease. By comparing the haptoglobin types in these samples, we hope to determine whether heart disease (e.g., having a heart attack) is associated with one of the three varieties of haptoglobin.

This study will use just a small amount of the precious supply of stored SHS blood samples, but the results could provide a big piece in the puzzle, adding to our understanding of what causes heart disease in American Indians. We look forward to reporting the results of these haptoglobin analyses in a subsequent newsletter.

Mannose Binding Protein

Dr. Lyle Best explains mannose binding protein.



Lyle
Best

In the 1980's a blood protein called Mannose Binding Protein (MBP) was discovered. This protein is made by the liver and at least one of its functions is to stick to the surface of certain bacteria (or germs) and act as a "tag" or marker to help the body's immune system "see" these germs better and destroy them easier. Some people are known to make small amounts or

slightly different types of MBP that are not very good at defending against bacteria. You may remember from the Infectious Disease substudy of SHS, researchers have become very interested in the possibility that some mild, persistent infections might be a cause of atherosclerosis (hardening of the arteries) that often results in heart attacks and stroke. Differences in the MBP

gene might be a factor in allowing some infections to continue in certain people. There was a study reported from Norway in 1998 that supported this idea. For that reason, the SHS Steering Committee approved the addition of MBP gene studies to the Infectious Disease substudy. This laboratory work will be done at the University of Pittsburgh by Dr. Robert Ferrell.



Genetics – Mapping the Road of Life

third in a series of articles by Lyle Best, MD

In the past we have talked about how genetics affects the way our bodies work, and why studying genetics might be important for discovering ways to detect, prevent or treat diseases. Now let's talk a little about HOW we study the effect of genes on health.

The DNA molecules we inherit are like a long road that has information coded along the length of it. Along this "road" are special places with very important information; like houses strung along the road. Each "house" (which is like a gene) has the information for only one tiny detail about our bodies. One house might tell what color to make our eyes, another what blood type we have and so on. Now we actually inherit two DNA molecules; on one side of the road are houses from our father and directly across the road is another

house with the same kind of information from our mother. During reproduction the houses from our mother and father can exchange places across the road, so even though 1/2 of our genes are from our mother on average, they get shuffled and can be found on either side of this "road." We think there are about 30,000 genes stretched out along our DNA; and we know what information the gene carries for only about 1/3 of these, but we hope to learn something about the other 2/3 through further research (like the Strong Heart Family Study).

There are also some road signs in places between the houses. These road signs (genetic markers) generally do not carry important information for the body (but scientists know where they are located along the road); they are just individual differences, like blood types. Scientists follow these markers from one generation to the

next to see which ones are consistently inherited among the people with heart disease in a family. This tells us that a gene (or "house") having an important effect on heart disease must be close by. Knowing the general location of a gene on the DNA is a very important first step in actually "finding" the gene and understanding how it affects heart disease. It is also a lot cheaper, faster and easier than testing all of the different changes that we sometimes find in the genes themselves. The more family members, and the more generations that can be tested, the easier it is to be sure that a particular marker is always traveling with a health condition.

In the next newsletter we will hear how genetic research from the past has helped develop medicines that are saving many peoples' lives today.

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