

## WHY DO ONLY SOME SEVENTH-DAY ADVENTISTS PARTICIPATE IN RESEARCH STUDIES?

In this study, we wanted to know more about what factors had an effect on a person's health behaviors and attitudes about health care. We examined the habits of Seventh-Day Adventists in California and the US southern states. We found differences in participant's attitudes, perceptions, and experiences with health care between the two groups.

When compared with California participants, Southern participants expressed more positive experiences with healthcare providers. However, Southern participants were less trusting of their healthcare providers, and reported more mistrust about the healthcare system. They tended to believe that racism and other inequalities remained within the healthcare system. We also found that Southern participants were more often long-term church members, more involved in church life, attended religious

services more often, and reported that religious beliefs were important in their day-to-day lives. California participants tended to report receiving only fair quality health care. They were somewhat less likely to link individual behavior to health status, and reported less of a sense of control over their health.

The study confirmed our suspicions that social settings and broader social forces help to shape the attitudes and opinions of racial and ethnic minorities toward health care. Some of the lessons we learned include:

- different approaches may be necessary when recruiting African Americans to research protocols
- varied approaches to providing health care for this population may also be warranted.
- the Black church might be effective in providing health

promotion and community health projects.

Researchers and healthcare providers must know the community to which they want to practice health care and from which they want to recruit participants to research studies. Where racism still exists, it is important for healthcare providers to acknowledge past abuses and move toward a more trusting future.

It is also very important for patients to communicate with their healthcare providers about their experiences with the healthcare system and other providers. Patient and physician or research communication is important for building trusting relationships. Providers need to help patients feel comfortable receiving health care and medical advice, as well as assisting them to navigate the complex healthcare system.

We must ensure that the public debates about healthcare reform include efforts that encourage providers and patients to understand one another and work toward the common goal of promoting human health and wellbeing. If patients don't trust the healthcare system or hold little confidence in it, they will not interact appropriately with it and the goals of promoting health and well being will be very difficult, if not impossible, to achieve.

*Source: Regional Differences in Attitudes that May Affect Health Behavior and Willingness to Participate in Research among Black Seventh-day Adventists*

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## DNA MAKEUP OF HISPANIC PERSONS SHOULD BE DETERMINED BEFORE WARFARIN PRESCRIPTION

Warfarin (Coumadin<sup>TM</sup>) is a "blood thinner" medicine commonly taken by patients in order to prevent blood clots. Patients are given warfarin for several conditions, including after a heart attack, atrial fibrillation, artificial heart valves, deep venous thrombosis, pulmonary embolism, or antiphospholipid syndrome. Although warfarin is the most widely prescribed anticoagulant drug in the United States and there is a standard dose for this medicine (5 mg/

daily), dosage usually varies considerably among patients. The effectiveness of warfarin has to be monitored by frequent blood testing for the international normalized ratio (INR) in order to reduce the patient's risk of bleeding. However, it can take weeks or months for a given patient to reach the desired levels of anticoagulation. In order to determine if sensitivity to warfarin runs in a family, scientists study a person's genes. At the present time, scientists can use

novel methods to study the genes in a patient's DNA to identify inherited traits related to heart conditions, coagulation disorders and sensitivity to anticoagulants. Genes may also help explain who will be more sensitive to warfarin therapy, and which treatment will work the best in each individual. This new approach is called personalized medicine.

Based on different studies in non-Hispanic populations, genetic variants (also known as

polymorphisms) in the genes encoding for the enzyme cytochrome P450 2C9 (*CYP2C9*, which breaks down and removes warfarin from the body), and the enzyme Vitamin K epoxide reductase complex subunit 1 (*VKORC1*, which is the target for warfarin anticoagulation action), significantly alter the effective warfarin dose. We do not know much about these variants and warfarin sensitivity in persons of Hispanic ancestry.

## FOR THE PATIENT

A total of 92 DNA samples from Puerto Ricans were screened using DNA-typing technology to determine how frequently specific CYP2C9 and VKORC1 gene variants were present in this population and to gauge their impact on warfarin dosage. Overall, 60% of the Puerto Rican population carried at least one variant predicting undesired warfarin responsiveness and 13% were double carriers with variants in both genes studied. This portion of

the population is at increased risk of warfarin overdosing if given the standard dosage, indicating the need for DNA-guided dosing in the majority of Puerto Ricans.

Based on a published DNA-guided warfarin dosing algorithm, single, double and triple carriers of functionally deficient variants predict reductions of 1.0–1.6, 2.0–2.9, and 2.9–3.7 mg/day, respectively, in warfarin effective dose. Our research should lead to additional studies

to apply methods for improving the way we currently determine the ideal warfarin dose in this Hispanic population. Accordingly, this approach could advance DNA-guided medicine to alleviate healthcare disparities. If DNA screening was performed before warfarin prescription, 85,000 serious bleeding events could be avoided annually, saving over \$1 billion in healthcare spending.

*Source: Prevalence of Combinatorial CYP2C9 and VKORC1*

### *Genotypes in Puerto Ricans: Implications for Warfarin Management in Hispanics*

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## LIPID LEVEL DIFFERENCES AFFECT HEALTH RISKS BETWEEN BLACKS AND WHITE

Blacks in the United States experience high rates of diabetes, heart disease and stroke. The development of effective programs to prevent these conditions must be a high priority. While we have many screening programs to predict who is likely to develop diabetes, heart disease and stroke, few Blacks were involved in the development phase of most of these programs. Consequently these programs

may be less effective in Blacks than Whites.

Doctors have used the markers, including lipid levels, for metabolic syndrome to predict cardiovascular and other organ risk. Lipids are fat in the blood. The specific fats measured in metabolic syndrome to predict risk are: triglyceride and high-density lipoprotein cholesterol.

Much research has shown that the lipid levels that predict

risk for diabetes, heart disease and stroke in Blacks and Whites are different. Factors that are known to affect lipid levels include: weight, diet, exercise, smoking, alcohol and genetics. There are probably other factors which also contribute but are still undiscovered. Clearly, more research needs to be done.

As we work on finding out why differences in levels of risk exist, we want to achieve early

diagnosis and prevention of diabetes, heart disease and stroke now. Overall, identifying the lipids levels, as well as the other risk factors which predict risk in Blacks, will help prevent diabetes, heart disease and stroke.

### *“Half the Dyslipidemia of Insulin Resistance” Is the Dyslipidemia of Insulin-Resistant Blacks*

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