ARIC MANUSCRIPT PROPOSAL FORM

Manuscript #147B

1. Title (length 26):
ABI & CVD Risk Factors
Full title: Ankle-Brachial Index (ABI) and Cardiovascular Disease Risk Factors: the ARIC Study

2. Writing Group:
(lead) ZJ Zheng, LE Chambless, AR Sharrett, WD Rosamond, FJ Nieto, HA Tyroler, G Heiss

3. Timeline:
Analyses are a spin-off of work done for MS#147, and almost complete. A draft manuscript will be distributed to the writing group within 2 months.

4. Hypotheses and Rationale:
This is a follow-up to ARIC Manuscript #147, which addresses the prevalence and risk factors of lower extremity arterial disease (LEAD), defined by the Ankle-Brachial Index (ABI). One of the intriguing and counter-intuitive findings in MS #147 is that prevalence of LEAD, defined as an ABI less than or equal to 0.90, was higher in women than in men, mainly due to the gender difference in ABI distribution. Although the ABI is used extensively in epidemiologic studies and clinical practice, the conventional cutpoints for an abnormal ABI, such as 0.9 or 0.8, were originally developed from clinical studies of patients referred for angiography of the lower extremities, but may not reflect the properties of ABI in the population. We have found no studies in the literature that have examined whether ABI are related to cardiovascular disease risk (CVD) factors over a wide range of its measurement, and whether the association differs by race and gender. We hypothesize that, as a marker of atherosclerosis, a decreasing ABI would show a graded or dose-response relation to CVD risk factors. We also postulate that gender differences in this association would be present, consistent with the gender-specific distribution of ABI.

5. Data:
The ARIC visit 1 data set will be used to test the main hypotheses. The main dependent variable is ankle-brachial index (ABI). ABI is categorized as 6 levels, based on the conventional cutpoints. The CVD risk factors include (1) blood lipids: total cholesterol, LDL- and HDL- cholesterol, and triglycerides, (2) pack-years of cigarette smoking, (3) insulin and glucose, and (4) fibrinogen. The unadjusted and adjusted mean level of risk factors in each category of ABI will be examined and presented. Covariates include sex, race, age. Data analysis is being performed by the lead author.