1. Title:
HDL-C/TC Ratio & Prevalent CHD or Atherosclerosis

2. Writing Group:
(lead) Chambless, Heiss, Patsch, Szklo, Krichevsky, Sorlie
(Comments have not yet been received from Sorlie and Patsch.)

3. Timeline:
Can be done now, on Visit 1 data.

4. Rationale:
A relationship between the HDL/TC (HDL-Cholesterol/Total Cholesterol) ratio has been established, for example, by the Framingham study. Although there appears to be a widespread conception that "if this ratio is high, the cholesterol level is not important," this statement about the interaction between HDL-C and TC has not been well established. Indeed, Chambless, Krichevsky, and Heiss worked long and hard on this topic with LRC follow-up data before being defeated by too small a number of "events." ARIC offers large numbers, including the opportunity for sex-specific and race-specific analyses, using as "event" either prevalent CHD (around 1,000 of each sex) or ultrasound cases (around 500 in all). The distribution of the ratio and the bivariate distribution of HDL and CHOL (or LDL) would be described by race and sex, and correlation of the ratio with BP, smoking, and age would be considered. Most important, the interaction between CHOL and the HDL/TC ratio (or LDL and HDL) as correlates of prevalent CHD or prevalent atherosclerosis will be considered.

5. Hypothesis:
The relationships between total cholesterol and (a) prevalent CHD and (b) prevalent atherosclerosis are the same at all levels of the HDL/TC ratio, for each sex and race, controlling for age, BP, smoking, and BMI. A similar hypothesis regarding the constancy of the association between CHOL (or LDL) and disease at all levels of HDL will be tested.