

ARIC MANUSCRIPT PROPOSAL FORM

Manuscript #322

1. Title: Family CHD History and Lipid Levels

2. Writing Group:

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3. Timeline:

Begin analyses during Summer 1995; draft by Fall 1995

4. Rationale:

Familial hypercholesterolemia and hypertriglyceridemia are well-established genetic traits associated with cardiovascular disease morbidity and mortality, although the prevalence of these conditions in the general population is relatively rare. FHS provides the opportunity to examine the association of familial CHD risk with expected familial lipid patterns at the population level.

5. Main hypotheses:

- 1) Levels of triglycerides, Lp[a], apoB, LDL, and LDL/apoB ratio (as an estimator of LDL-particle number) are positively associated with family history of CHD risk; levels of apoA-I and HDL are inversely associated.
- 2) These associations are present in all race/gender groups.

6. Data:

Data are from ARIC visit 1 data for all 4 field centers. Using race/gender-specific models, family risk score will be used as the independent variable to predict the main outcome variables of LDL, HDL, triglycerides, Lp[a] protein, apoB, apoA-I, and LDL/apoB. After describing the univariate relationships, the models will be adjusted for age, pack-years of smoking, ethanol intake, Keys score, education, BMI, and WHR. These covariates may influence the family risk score/lipid association through alterations in fat patterning (with accompanying changes in lipid metabolism) or as surrogates for lifestyle factors that may or may not aggregate within families. The above univariate associations will also be compared validated FRS, FRSFH31, to examine potential misclassification of expanding the score from the two ARIC/FHS field centers to the entire ARIC cohort.