ARIC MANUSCRIPT PROPOSAL FORM

Manuscript #208

1. Title:
Diet and Serum Lipids

2. Writing Group (list individuals with lead responsibility first):
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3. Timeline:
Analyses can start as soon as this paper proposal is approved.

4. Rationale:
Several ecologic and metabolic studies have shown a relation between dietary components and serum lipids
and lipoproteins. Results from epidemiologic studies are conflicting. We have an opportunity in ARIC to
examine the relation between habitual intake of specific dietary components and serum lipids and lipoproteins
in the first large population-based study including both men and women, blacks and whites. No population-
based studies have examined the relation between diet and HDL subfractions. In addition, studies have
indicated that there may be a modulating effect of obesity in the lipid and lipoprotein response to dietary
saturated fat and cholesterol.

5. Main Hypothesis:
Dietary saturated fat, cholesterol, Keys score and animal fat are positively related to total, LDL and HDL
cholesterol, and not related to triglycerides. Polyunsaturated, monounsaturated and vegetable fat are
inversely related to total and LDL cholesterol. Fiber is inversely related to total and LDL cholesterol, and
directly related to HDL cholesterol. Carbohydrates, especially simple sugars, are directly related to
triglycerides and inversely related to HDL. Alcohol intake is directly related to HDL2 cholesterol. We
hypothesize that the relation between the dietary variables and serum lipids and lipoproteins differ by levels
of obesity (body mass index, waist/hip circumference), even after adjustment for potential confounders such
as caloric intake and smoking.

6. Data (variables, time window, source, inclusions/exclusions):
Independent variables: Dietary fats and cholesterol, fiber, alcohol, animal and vegetable fat, carbohydrates,
protein, alcohol,
and possibly other nutrients.
Dependent variables: Total, LDL-, HDL-, HDL2-, HDL3- cholesterol, Triglycerides.
Covariates and other variables: Age, gender, race, caloric intake, smoking, body mass index, waist & hip
circumference,
physical activity, education, diabetes, insulin, CVD status, and possibly other
CVD risk factors.