ARIC Manuscript Proposal # 715

1.a. Full Title: Evaluation of risk stratification methods for lipid-lowering therapy in individuals with LDL-cholesterol < 130 mg/dl from a large, population-based cohort

b. Abbreviated Title (Length 26): Risk LDL < 130

2. Writing Group (list individual with lead responsibility first):
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3. Timeline:
   Abstract Mar 1, 2000
   Manuscript submission Sept 1, 2000

4. Rationale:

   Primary prevention lipid-lowering clinical trials have demonstrated a reduction in cardiovascular (CVD) events with statin therapy when LDL levels exceed 130 mg/dl. However, almost one-third of CVD events occur in individuals with LDL < 130 mg/dl (ARIC data), and no primary prevention trials have been completed for this population. However, the recent Veteran’s Affairs- HDL Intervention Trial (VA-HIT), a secondary prevention trial, demonstrated a 22% reduction in cardiovascular events in male veterans with a history of myocardial infarction who received gemfibrozil 600 mg bid for 5 years. Eligibility criteria for this study included a baseline LDL < 140 mg/dl (mean LDL = 110 mg/dl).

5. Main Hypothesis:
   1). To determine if a Framingham risk score of ≥20% 10-year coronary heart disease risk will be useful for identifying ARIC participants with LDL < 130 mg/dl who later experienced a CVD event
   2). To compare performance of ≥20% risk cut-point in ARIC participants with LDL < 130 to performance of absolute risk cut-point in individuals with LDL ≥ 130 mg/dl and current NCEP guidelines (as done in manuscript #623).

6. Data (variables, time window, source, inclusions/exclusions):

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Variables: age, gender, CHD/PVD/CVD status, current smoking, diabetes, hypertension treatment or diagnosis, systolic blood pressure, diastolic blood pressure; total cholesterol, triglycerides, HDL-C, LDL-C, menopause status, current postmenopausal HRT, race, premature parental history of CHD, lipid-lowering medication; Initial CVD event between visit 1 and visit 4: CHD death, nonfatal MI, revascularization (PTCA & CABG), fatal & nonfatal ischemic stroke.

Time window: Visit 1 vs. visit 4 (if available); will probably need to use visit 3 for abstract

Inclusions/exclusions: All ARIC participants without prevalent cardiovascular disease and not receiving lipid-lowering medication at Visit 1

Analysis:
Calculate 10-year CHD risk based on Framingham Score sheets;
Analysis by LDL groups <130 an ≥130 mg/dl:
1). Cross-tabulate by Framingham risk score ≥10%, ≥15%, ≥20%, ≥30%, and NCEP treatment at visit 1 by whether an initial CVD event occurred between visit 1 and visit 4; sensitivity (95% CI), specificity (95% CI), positive and negative predictive values
2) Estimate number need to treat to prevent one CVD event assuming a 20% reduction in CVD events over the mean period of follow-up