Manuscript #355

1. Title (26 char):
Electrocardiographic Criteria for Echocardiographic Left Ventricular Hypertrophy in African-Americans

2. Writing Group (lead person listed first):
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3. Timeline:
Analysis to be completed by June 1996. Draft manuscript ready for review by Steering Committee in September 1996.

4. Rationale:
Echocardiographic estimates of LV mass and digital ECGs from Framingham have provided the basis for an extensive evaluation of the performances of the most frequently cited algorithms for the detection of LV hypertrophy (LVH). Sex-specific algorithms originating from research at the Cornell University medical school adjusted for obesity and age have demonstrated sensitivities ranging from 32 to 75 percent at 95 percent specificity, depending on sex and severity, in the Framingham Caucasian population. This work would undertake to find the most sensitive ECG algorithm in a large population-based series of African-Americans for which the requisite data have been collected. The approach would be to identify those ECG parameters with the greatest correlation with Echo-LV mass.

5. Main Hypothesis (or objective):
The identification of an ECG-based algorithm which can detect echocardiographic LVH in African-Americans at least as well (for a given specificity) as that which has been found for the subjects in the Framingham cohort of Caucasians. As part of this work, it will be necessary to establish a suitable definition of LVH for African Americans, perhaps as was done by means of a healthy subset of subjects in the Framingham cohorts. It will also be useful to explore the question of an optimum method of indexing LV mass for body size, a still unresolved issue in Caucasian studies.

6. Data (variables, time frame, source, inclusions, exclusions):
Digital ECGs, echocardiographic estimates of LV mass (or the echocardiographic measurements on which they are based), sex, height, weight, blood pressure. Subjects with previously diagnosed MI, WPW syndrome, and left or right bundle branch block would be excluded. All other ARIC subjects in the Jackson, Mississippi center who participated in the most recent examination which recorded ECGs and echocardiograms would be included.