1. Title: Variability of M-mode and 2D measurements in the determinants of left ventricular mass: the ARIC Study

2. Writing Group:

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3. Timeline:

   Data collection already completed for initial presentations. Completion of analysis and manuscript no later than Spring 96. Abstract submission for the AHA Council on Epidemiology and Prevention in March 96 is planned.

4. Rationale:

   Off-line analysis of videotape and digitally captured echo images is being used increasingly in studies of left ventricular mass and wall dimensions. Other experienced physician-readers available to ARIC as consultants were involved in important echocardiographic studies in their own laboratories. Measurement of variability among ARIC and "outside" readers will be (1) an important contribution to the acceptability of the ARIC echo data in the scientific community, (2) a significant contribution to what is known about digital measurement techniques, and (3) a factor in assessing the comparability of the ARIC echo data to those of other important epidemiologic studies previously published by these consulting echocardiographers.

5. Main Hypothesis:

   Interreader variability for M-mode and 2D image measurements using digital techniques on identical digital image workstations and using uniform reading techniques will be acceptably low as demonstrated by correlations, coefficients of variation, and absolute value differences among readings of three experienced physician-readers from independent echocardiography laboratories. M-mode and 2D techniques will produce similar measurement data with a similar degree of interreader variability. Doppler data will also show low variability among readers.

6. Data:

   Drs. Skelton, Benjamin, and Liebson will independently read the same set of ARIC echocardiograms. Data will be collated in the ARIC Echo Reading Center and analyzed as a separate data set. No data runs are needed from the Coordinating Center.