ARIC MANUSCRIPT PROPOSAL #672 REVISED

PC Reviewed: 07/21/99 **Status: Approved** **Priority: 2**
SC Reviewed: _____ **Status:_____** **Priority:____**

1.a. Full Title: Changes in cognitive test scores in the ARIC cohort over a 6-year period (Visit 2 to Visit 4) and their correlation with vascular risk factors

b. Abbreviated title (Length 26): Cognitive test change

2. Writing Group (list individual with lead responsibility first):

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3. Timeline:

ASAP

4. Rationale:

We now have data spanning a 6 year interval on the ARIC cohort for the 3 tests that are part of the cognitive battery including the delayed word recall, the digit symbol test and the word fluency test. This data are of interest in their own right for demonstrating longitudinal changes in cognition in the middle-aged and young-elderly members of the ARIC cohort. In addition, complete analysis of the data is necessary to make our case to submit an R01 to study the appearance of dementia in this cohort and to study the relationship (in the subset of subjects who'd had MRI's in 1993-4) between neuroimaging and cognition.

Regarding overlap with proposal #388, I would ask that the Committee note that what we are proposing is strictly related to the longitudinal data from Visit 4 versus Visit 2, whereas Dr. Liao's proposal (#388) was related entirely to the Visit 2 cognitive test scores. Dr. Liao's proposal did involve longitudinal information on blood pressure, but proposal #672 will focus on

longitudinal changes in cognition as they are predicted by baseline (Visit 1 or Visit 2, depending upon variable) cardiovascular/cerebrovascular status. The two proposals dovetail nicely. Dr. Liao's efforts will focus on antecedent risk factors to Visit 2 cognitive status, whereas the current proposed manuscript #672 will look beyond Visit 2 to the following 6 years, and ask the question, "Did cognition decline further in those individuals with vascular disease/risk factors or not?"

5. Main Hypothesis:

Cognitive changes will be small in the group as a whole, but a subset of subjects in the oldest quartile will show cognitive deterioration. That deterioration will be correlated with cardiovascular risk factors such as hypertension, carotid artery narrowing, history of stroke and myocardial infarction.

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

Dependent variables: Visits 2 and 4 DWR, WF, DSS (change)

Independent variables: Demographics from Visit 1, blood pressure Visits 1, 2 and 4, carotid artery thickness at all available visits, smoking, diabetes, lipids, alcohol