

## ARIC MANUSCRIPT PROPOSAL FORM

Manuscript #409

**Title:** Alcohol Consumption in the ARIC Population

Abbreviated Title: Alcohol trends

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**Timeline:** Immediate

**Rationale:** Several cross sectional and longitudinal studies have found conflicting results on alcohol intake with increasing age (Adams 1990, Goodwin 1987, Geroldi 1994). Cross-sectional studies have indicated that alcohol consumption declines with increasing age (Goodwin 1987, Barnes 1979, Cahalan 1968), but whether this represents a true decrease with age or a cohort effect has been questioned (Adams 1990). The question is important since older persons are at a higher risk for adverse consequences of alcohol use (Adams 1990). Also, the level of alcohol consumption that can be considered moderate decreases with age since there is a decreased volume of distribution of alcohol due to increase percentage of body fat (Adams 1990, Vestal 1976). It is also of interest since a decline in alcohol intake with age, or because of declining health or declining mental function may confound cross-sectional studies of the association of alcohol consumption and cognition. It has been suggested that a low level of current alcohol intake may not be a good indication of past intake, since those who become chronically ill or develop cognitive problems may cease drinking or lower their intake of alcohol (Adams 1990, Christian 1995). Adams (1990) found a decline in the percentage of drinkers with age, but found a decline in mean alcohol intake over time only in those who were heavy drinkers. Again, this could result in a lack of correlation of alcohol intake and cognition if only cross-sectional associations are evaluated. Other longitudinal studies (Framingham Study and Boston Normative Aging Study) failed to show a decline of alcohol intake with aging although the Boston Normative Aging Study did show a decline in drinks per year consumed in the oldest two cohorts (Gordon 1983 and Glynn 1985).

It is also of interest to determine whether variation in the population studied affects the intake of alcohol with age. Adams' study (1990) was limited to a population of white, middle-class, well-educated persons. He suggested that not only could difference in the type of study (cross-sectional vs. longitudinal) affect outcomes, but that population (cultural) differences because of size and location or ethnicity of the study communities could affect outcomes.

ARIC has data that will allow determination of the following: alcohol intake by age cross-sectionally and longitudinally, whether there is an association of health perception and alcohol intake, and whether poor cognition may be associated with a decrease in alcohol consumption at a future visit. We can also examine whether alcohol intake over time varies with the study sites.

**Main Study Questions:** The following questions will be addressed controlling for gender, race, income, and education.

1. Is there a change in the percentage of participants who report consumption of alcohol with increasing age

cross-sectionally or longitudinally?

2. In cross-sectional analysis of visit 1, 2, and 3 data, is there a decline in the amount of alcohol consumed with increasing age within each visit? In those who continue to drink from visit 1 to visit 3, is there a change in the amount of alcohol consumed from visit 1 to visit 3?

3. For questions 1 and 2, is the longitudinal change similar in those who are "heavy drinkers" (> 40g alcohol/day or 280g/week) at visit 1 compared to those who drink less at the same visit?

4. Is cognition in the lowest quartile at visit 2 predictive of a lower alcohol intake at visit 3? Is the participants view of his health at visit 1 or 2 associated with the reported level of alcohol intake at the same visit or predictive of consumption reported at the following visit? (Authors have suggested that poor health or mental changes may lead to decreased alcohol consumption.)

5. Do questions 1-4 vary by study site after controlling for race, gender, education and income? For comparing variability between regions, we can compare the three regions with white participants and the two regions with African-American participants.

**Data (variables, sources, inclusion/exclusion):**

Visit 1-3: gender, race, age, study site, measures of alcohol intake, education, income, participant's view of his health.

Visit 2: cognitive function scores

**References for Alcohol Consumption:**

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