ARIC MANUSCRIPT PROPOSAL FORM

Manuscript #177

1. Title:
Anger and CHD
Full Title: Expressions of Anger and Risk of CHD: Parts I-VI

2. Writing Group:
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3. Timeline:
Analysis on hypothesis A can begin immediately and be repeated with the availability of the full Visit 2 data set in January 1993; this paper will serve as the descriptive epidemiology paper and as a component in the introductions and methods of hypotheses B-F. Work on hypotheses B and F could also begin immediately, with Tyroler as lead author for B (hypertension) and Duncan as lead author for F. Work on hypotheses C, D, and E could begin at the discretion of the lead author.

4. Rationale:
Expressed or suppressed anger, by itself or in combination with stress-producing situations, has been shown to be associated with coronary heart disease and its risk factors, such as hypertension (Gentry, 1982; Harburg, 1979), blood lipid levels (Johnson, 1992; Lundberg, 1989; Weidner, 1987), coronary atherosclerosis (Dembroski, 1985; Williams, 1980), pulmonary function (Higgins, 1991) and body fat distribution (Wing, 1991). The Spielberger anger scales have been used to assess suppressed (anger/in) and expressed (anger/out) (Williams and Jenkins, 1986; Spielberger, 1985). The literature, however, on the Spielberger Anger Expression Scale is limited to small sample sizes, or very young study populations (school children or young adults). The ARIC data provide an opportunity to substantially augment the research on cross-sectional associations of anger and CHD and its risk factors a large, biracial, middle-age population.

5. Main Hypotheses:
A) There is no variation in patterns of anger by age, race, sex, or socio-economic status. (Paton)
B) There is no association between expressed or suppressed anger and hypertension by age, sex, race, or SES. (Paton)
C) There is no association between expressed or suppressed anger and carotid artery wall thickness. (Cooper)
D) There is no association between expressions of anger and prevalent CVD (fatal and non-fatal MI, stroke, TIA).(Rosamond)
E) There is no association between expressions of anger and blood lipid levels. (Knox)
F) There is no association between expressions of anger and body fat distribution. (Duncan)

6. Data:
Data for the Spielberger Trait Anger Scale, demographic/SES descriptors, and prevalent CHD and risk factor measurements are currently available in the Visit 2 data set for approximately two-thirds of the cohort.

REFERENCES
6) Lundberg U, et al. Type A behavior in health males and females as related to physiological reactivity and blood lipids.
   42(6):539-549.