ARIC MANUSCRIPT PROPOSAL FORM

Manuscript #333

1. Title: Physical Activity Patterns and Predictors of Change in ARIC

2. Writing Group: Kelly Evenson, Wayne Rosamond, Barbara Ainsworth, and other ARIC investigators

3. Timeline:
   The timeline is conditional upon the Publications Committee approval and closure of visit 3 cohort data.

4. Rationale:
   Few studies exist in the literature that describe physical activity change over time, within the same cohort of individuals. Change in physical activity over time can be described in four categories: maintenance of activity, maintenance of inactivity, decrease in activity, or increase in activity. Physical activity time trends are of potential importance for two reasons. First, in many studies addressing the effect of activity on an outcome, investigators compare the outcome to physical activity status at a single point in time. However, it seems reasonable to postulate that physical activity may not remain constant over time. This would have implications on the relationship of physical activity to diseases with extended latent periods. A study utilizing the Harvard College alumni physical activity questionnaire found that activity assessed over the short term may not be a valid proxy in the long term (Lee et al., 1992). Secondly, it is important to know why people change their physical activity status. Identifying these reasons can help target people who are most likely to benefit and adhere to an interventional program (Dishman & Sallis, 1994).

ARIC provides an opportunity to describe biracial change in physical activity over a sex year time period; the questionnaire was administered at visit one and visit three. We wish to describe change and predictors of change in physical activity form visit one to visit three. The following variables will be examined as predictors of change in physical activity: race, gender, age, body mass index, education, socioeconomic status, state of residence, family history, social support, marital status, employment, season, and smoking.

(1) Race: Currently in ARIC there is a writing group describing racial comparisons of physical activity cross sectionally at visit one (Manuscript #251). They found that physical activity in African-Americans is less when compared to Whites (Brancati et al., 1995). We would be interested in determining if race affects change in physical activity.
(2) Gender: A study by Sallis et al. (1986) found that men were more likely to adopt strenuous physical activity, while women were more likely to adopt moderate physical activity.
(3) Age: We predict that as age increases, physical activity decreases.
(4) Body Mass Index: Being obese may play a role in physical activity change, especially in those person attempting to lose weight.
(5) Education: Eaton et al. (1993) found that education influenced maintenance, adoption, and quitting exercise.
(6) Socioeconomic Status: In the study previously mentioned by Brancati et al. (1995), the racial differences were not explained away by socioeconomic status. Perhaps income may influence physical activity change.
(7) Field Center: Depending on what state one lives in, change in physical activity may be influenced due to physical activity opportunities.
(8) Smoking: Tobacco use has been associated with higher drop out rates in exercise programs (King et al.,
(9) Social Support: In one investigation, social support as measured by organization membership and children recommending exercise influenced maintenance of physical activity for women (Eaton et al., 1993). Participants who are married, with presumably more social support, may be more likely to begin or adhere to an exercise program.

(10) Employment: Being employed may influence one's ability and motivation to begin or maintain a physical activity program.

(11) Season: The season the participant answers the physical activity questionnaire may influence the answers given. This potential confounding by season will be examined.

5. Main Hypotheses/Goals:

This study will describe the change in physical activity from visit one to visit three in ARIC. Secondly, we hypothesize that there are certain factors associated with physical activity change: increasing age, smoking, and BMI will influence physical activity negatively. Increasing education, socioeconomic status, employment, and marital status will influence physical activity positively. We also hypothesize that there are no differences in physical activity change by race, gender, field center, and season.

6. Data:

Physical activity was determined by the modified Baecke questionnaire at visit one and three. This questionnaire defines physical activity in terms of work, leisure, and sport.

References Cited

