ARIC Manuscript Proposal #668

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SC Reviewed: _____   **Status: _____**   **Priority: _____**

1.   **Title:**   Delayed treatment of newly identified diabetes

2.   **Writing Group:**   Alafia Samuels (lead), Eyal Shahar, Fred Brancati

3.   **Timeline:**   May begin immediately upon approval

4.   **Rationale:**

Results from NHANESIII indicate that 12-13% of Americans aged 45-64 have diabetes and that 33% of these individuals are undiagnosed, and hence untreated (Harris, 1998). In light of these results, the ADA has recommended mass screening for diabetes using fasting glucose measurements. Although the benefits of screening have never been formally tested, recently published results of the UK Prospective Diabetes Study (UKPDS Study Group, 1998) provide support for this recommendation, insofar as they demonstrate the superiority of prompt pharmacologic therapy (over hygienic measures alone) in the treatment of individuals with newly diagnosed diabetes. ARIC has a unique database of fasting glucose measurements made at 3 yr intervals. Preliminary analyses indicate that many ARIC participants have undiagnosed diabetes at baseline and that many of these individuals remain undiagnosed at year 3 and year 6 of follow-up. These data would allow the determination of "delay times before clinical diagnosis."

5.   **Main Hypotheses:**

 a) Many adults with newly identified diabetes (based on ARIC data) remain undiagnosed (by their physicians) and untreated 3 yrs later.
b) Delayed treatment is related to race, SES, health behaviors, and the presence of risk factors for diabetes-related vascular disease

6.   **Design:**

Prospective study of individuals with prevalent undiagnosed diabetes at visit 1 (n=264) and incident undiagnosed diabetes at visits 2 (n=257) and 3 (n=189) who continue to have >diabetic range= fasting glucose levels ($ 140 mg/dl) at subsequent visits.

7.   **Data:**

At baseline: age, sex, race, education, ARIC site, physician diagnosis of diabetes, physical activity, smoking, BMI, blood pressure, fasting glucose, HDL, LDL, triglycerides, creatinine, medications (Will use fasting glucose cut-off of 140 mg/dl which was the standard clinical definition of diabetes until 1997).
During follow-up: fasting glucose, physician diagnosis of diabetes

8.   Main analysis:

-Dependent variables: a) Diagnosed by physician 3 (or 6 or 9) yrs later (Yes vs No)
                                           b) Delay time before diagnosis
                               (ranges from 0.0 yrs to 9.0 yrs)
 -Independent variables: Age, sex, race, education, smoking, etc
- Approach: Contingency tables and multiple logistic regression for
                               diagnosis status;
                               Multiple linear regression for delay time