1. Full Title: Risk Factors for Carotid Artery Stenosis in the Washington County ARIC Cohort
   Abbreviated Title (length 26): Carotid stenosis risk factors

2. Writing Group (list individual with lead responsibility first):
   Lead: Adnan L. Qureshi
   Address: Johns Hopkins Medical Institutions
            Meyer 8-140
            600 N Wolfe Street
            Baltimore, MD 21287-7840
   Phone: (410) 955-7481
   Fax: (410) 955-4925

   Muhammed A. Suri
   J.Z. Ding
   Gene Sung
   Moyses Szklo

3. Timeline:
   Immediately.

4. Rationale:
   Carotid artery stenosis is associated with a high risk for cerebral infarction and
   subsequent morbidity. At this point, there is no definite treatment for ischemic stroke.
   Therefore, efforts have to be directed towards prevention of factors that predispose to
   stroke. Risk factors for carotid artery stenosis are still not well understood. In particular
   the role of hemostatic factors and apolipoproteins is not well defined. Although ARIC
   investigators have examined thickness of carotid walls as an outcome, an opportunity
   exists for assessing stenosis as an outcome on the basis of referral data.

5. Main Hypothesis:
   1) To identify the independent risk factors for carotid artery stenosis. The patients with
      carotid artery stenosis are identified during the ultrasonographic examination. Patients
      who have a residual artery lumen < 2 mm due to stenosis are identified by the field center
      sonographers and/or by readers in the ultrasound center. These patients are sent a medical
      alert letter. The list of all persons issued a medical alert is kept both at the field center
      and the ultrasound center, and will be used for this study.
   2) We hypothesize that there are differences in the risk factors associated with carotid
artery stenosis compared with carotid artery thickening (defined as intimal-medial thickening greater than 90th percentile of the sample).

6. Data (variables, time window, source, inclusions/exclusions):
Risk factors for carotid artery stenosis will be determined by using cross sectional data. We will examine relationship of the proposed risk factors to both carotid artsy stenosis and carotid artery thickening (in the absence of stenosis) in Washington County cohort members. Data from Visits 2 and 3 will be used. The following variables will be examined as potential factors: age, sex, race, hypertension, use of blood pressure medication, diabetes, mellitus, smoking, body-mass index, ethanol use, Sports physical activity index, educational level, prevalent cardiovascular disease, estrogen replacement (m women), and aspirin use; serum cholesterol, triglycerides, SL, LOL, apolipoprotein A-Iw, apolipoprotein B, and total lipids; fibrinogen, factor VII, VIII activity, von Willebrand factor antigen, protein C antigen, platelet count, WBCs, hemoglobin; fasting insulin, hemoglobin AC, and fasting glucose.

Because the analyses will be based on available data, it will primarily consist of polychotomous regression including the whole Washington County cohort (approximately 4,000 persons). Two outcomes will be studied: carotid artery stenosis and carotid artery.