1. Title: Influence of Autonomic Balance on Vascular Stiffness
   Abbreviated: HRV, Stiffness, and Race/Ethnicity

2. Writing Group:
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3. Timeline:
   Draft manuscript eight months after approval by Publications Committee

4. Rationale: Clinical research and experimental laboratory work have identified links between autonomic tone, and vascular stiffness. To our knowledge, these associations have not been addressed in population-based studies, and serve as the focus for the manuscript proposed here. Estimates of vascular stiffness will be obtained from B-mode ultrasound measurements, by means of arterial stiffness beta index and incremental elastic modulus. Sympathetic/parasympathetic imbalance will be estimated from beat-to-beat heart rate variability, and from postural changes in both heart rate variability and blood pressure.

5. Study Questions:
   Sympathetic/parasympathetic imbalance is associated with vascular stiffness, after analytic control for blood pressure, age, gender, center, and smoking status
   
   Increased sympathetic tone is directly associated with vascular stiffness;

   Increased parasympathetic tone is inversely associated with vascular stiffness;

6. Design and Data:
   Data are cross-sectional. Ultrasound measurements of vascular stiffness from ARIC Visits 1 and 2 have been assembled into a cohort-representative file. Beat-to-beat heart rate variability in the supine and standing positions are being measured on ARIC data by the HRV ancillary study. Differences between supine and standing blood pressures were measured at baseline on the ARIC cohort.

   Covariates: demographic variables; anthropometric measurements; systolic and diastolic blood pressure; hypertension; smoking; medication use; heart rate; prevalent CHD, CVA.

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