1. Title:
Prevalence, anatomic characteristics, and risk factor associations of infarct-like lesions on MRI in the elderly: the ARIC Study
(N.B. this proposal was previously deferred (#307). It may still split into two companion manuscripts, one on prevalence, the other on risk factor associations. An exemption to the 7-author limit is requested.)

2. Writing Group:
(lead) Bryan, Cooper, Beauchamp, Burke, Hutchinson, Liao, CSCC rep., Toole

3. Timeline:
High priority is requested for this manuscript, since it is the baseline paper for MRI infarcts.

Submit proposal to Publications Committee 2/96
Complete analysis 5/1/96
Submit first draft to Publications Committee 9/1/96
Submit to journal 12/1/96

4. Rationale:
Infarct-like lesions (ILL) seen on cerebral MRI in otherwise healthy persons may well represent subclinical stroke, with most lesions presumed to be related to disease of smaller cerebral arteries. There are no known population-based data in middle-aged persons on the prevalence and anatomic characteristics of these lesions. Data from the Cardiovascular Health Study in the elderly show that the prevalence of ILL is several-fold that of clinically-apparent stroke; the power to detect associations with cardiovascular risk factors is therefore substantially greater than for stroke. Furthermore, it is likely that the risk factor profile for ILL differs from that for stroke, with blood pressure being relatively more and lipids relatively less important for ILL. It may also be possible to detect a similar risk factor contrast between ILL likely due to smaller vessel disease and those likely due to larger vessel disease.

5. Main Hypothesis:
1. The prevalence of MRI-defined cerebral infarct-like lesions is substantially greater than for clinically-apparent stroke.
2. Associations of established risk factors with MRI infarct-like lesions are similar to those for clinical stroke. However, BP will be more strongly, and lipids less strongly, associated with ILL than they are with clinical stroke.

6. Data (variables, time frame, source, inclusions, exclusions):
Data: MRI (infarct presence, size (by maximum dimension)), # of participant, T1 signal (increased, iso, decreased), location (by each ARIC anatomic category plus grouping into cortical, subcortical and posterior fossa), age, race, gender, field center, education, prevalent hypertension, blood pressure, diabetes, prevalent stroke, smoking status, total cholesterol, HDL-C, LDL-C, fibrinogen, other?

Analysis to be performed at CSCC.