1. Title (length 26):
Gender and Recurrent CHD
Full title: Risk of recurrent coronary heart disease in men and women

2. Writing Group:
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3. Timeline:
Analyses will be initiated during early Fall 1992 and manuscript preparation completed during Spring 1993.

4. Rationale:
In most industrialized nations, coronary heart disease (CHD) is the leading cause of death in both males and females. Although the risk of CHD mortality in women approaches that of men after the age of 60, premenopausal females have significantly lower rates of ischemic heart disease compared with males. Because a first myocardial infarction (MI) occurs, on average, 10 years later in females than in males, initial evidence of CHD such as angina may be overlooked in middle-aged women—recent epidemiologic evidence suggests that CHD is less likely to be diagnosed and treated. It is less clear whether true gender differences exist in recurrence of CHD following a first event, and, if present, whether these differences persist after adjustment for other cardiovascular risk factors.

The ARIC Study permits these questions to be answered in the context of a yearly questionnaire determining incident, hospitalized CHD among the ARIC cohort, ages 45-64. By choosing participants with a history of CHD at baseline from an ambulatory population sample, increased rates of recurrent CHD are more likely to be due to risk factor variability rather than the result of an increased tendency toward reinfarction in the months immediately following an acute coronary event.

5. Main Hypothesis:
1) Rate of recurrent coronary heart disease does not vary by gender.
2) Risk of recurrent CHD is independent of age, race, and conventional CHD risk factors in each gender group.

6. Data:
Black and white participants in the cohort component of the ARIC Study who have had CHD diagnosed at the baseline visit (MI either by ECG or by physician; angina; or prior coronary revascularization) will be included in this study. Recurrent CHD will be determined via the annual followup questionnaire as the dependent study variable. Incident CHD is defined by any of the following criteria: definite fatal MI or CHD; incident definite nonfatal MI; or incident coronary angioplasty or CABG by hospital abstraction.
At the time of analysis, at least 3 years of reasonably complete followup data are available for the visit 1 cohort (year 4 or potentially year 5 of the study). Gender will be the main exposure (independent) variable. Other covariates that will be considered as potential confounders or effect modifiers include age, race, LDL- and HDL-cholesterol, hypertension status, amount of cigarette smoking, diabetic status, health insurance coverage, educational attainment, use of aspirin or B-blockers, and menopausal status in female participants—all collected at baseline. The association of gender and these risk factors with recurrence of CHD will be assessed using the Zeger-Liang (GEE) method for longitudinal data analysis (with a logit link function and an exchangeable correlation matrix structure) to obtain an odds ratio estimate.

7. Limitations:
This study will address incident CHD without "silent MI", as defined by interim MI assessed by ECG between cohort visit 1 and visit 2, due to the desire to proceed with these analyses before the interim MI coding becomes available. If the CSCC decides that silent MI should be included, only machine-coded ECG readings will be used.