**ARIC MANUSCRIPT PROPOSAL #675**

| | | |
|---|---|---|
| **PC Reviewed: 07/08/99** | **Status: Approved** | **Priority: 2** |
| **SC Reviewed: _____** | **Status: _____** | **Priority: _____** |

**1.a. Full Title:** Risk factors for incident gallstone disease

**b. Abbreviated title (Length 26):** Incident gallstone disease

**2. Writing Group (list individual with lead responsibility first):**


Lead: Lori L. Boland, M.P.H.
Address: University of Minnesota, Division of Epidemiology
1300 South Second Street, Suite 300, Minneapolis, MN 55454-1015
Phone: (612) 624-8252 Fax: (612) 624-0315
Electronic Mail Address: boland@epi.umn.edu

Aaron Folsom
Wayne Rosamond
Traci Clemmons


**3. Timeline:**

Analysis completed July 1999 (Preliminary analysis in MN, final analysis at CSCC); Draft by August 1999.

**4. Rationale:**

Each year in the United States, approximately 800,000 hospitalizations result from gallstone disease, with the associated health expenditures estimated at $2 billion annually. Clearly, gallstone disease is a significant source of morbidity in the United States. While risk factors such as female gender, increasing age, and parity have been well-established, effective preventive measures can only be implemented with the identification of modifiable risk factors, which have been slower to emerge. A number of modifiable risk factors, including body-mass index, physical activity, smoking, serum total cholesterol, and hormone replacement therapy have been examined, but with the exception of body-mass index, few consistent associations have been identified. Preliminary analysis indicates that roughly 400 cases of hospitalized incident gallstone disease have occurred in the ARIC cohort through 1996. (An additional 150 subjects self-reported incident gallstone disease.) The extensive baseline measures in ARIC provide a valuable resource for examining poorly understood and potentially modifiable determinants of gallstone disease. Of particular interest are lipids (total cholesterol, LDL, HDL,

triglycerides, and lipoproteins), insulin, body-mass index, waist-to-hip ratio, serum magnesium, uric acid, vitamin C intake, hormone replacement therapy, and medication use.

**5. Main Hypothesis:**

Incident gallstone disease is positively associated with: BMI, WHR, fasting insulin, parity, diabetes, hormone replacement therapy, smoking, past use of oral contraceptives, LDL cholesterol, triglycerides, thiazide diuretics, lipid lowering medications, uric acid, weight gain. Incident gallstone disease is inversely associated with: physical activity, moderate alcohol intake, education, total serum cholesterol, HDL cholesterol, and aspirin use. Incident gallstone disease is not associated with: apolipoprotein A1, apolipoprotein B, vitamin C intake, serum magnesium, fibrinogen

**6. Data (variables, time window, source, inclusions/exclusions):**

Independent variables: BMI, WHR, smoking status, physical activity, education, total cholesterol, LDL and HDL cholesterol, triglycerides, apo A1, apo B, insulin, alcohol intake, vitamin C intake, parity, menopausal status, oral contraceptive use, diabetes, hormone replacement therapy, diuretic use, aspirin use, lipid lowering medications, serum magnesium, uric acid, fibrinogen, weight gain.

Dependent variable: Incident gallstone disease through 1996 as determined by specified ICD codes found in ARIC cohort surveillance data. AMH Form data will be used to determine baseline gallstone disease status. In addition, the AMH Form will be used to identify self-report of incident gallstone disease, which can be analyzed seperately or combined with the cases found through surveillance.

Covariates: gender, race, age
Exclusions: prevalent gallstone disease at baseline, those not fasting 8 hours, missing AMHA form