

## ARIC Manuscript Proposal #712

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1.a. **Full Title:** Characterization of stroke deficits and symptoms

b. **Abbreviated Title (Length 26):** Stroke deficits

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

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3. **Timeline:** Preliminary analysis completed. First draft to be prepared by June 1999.

4. **Rationale:**

Stroke remains a major public health concern in the United States with more than 500,000 cases diagnosed annually (1). Approximately 4 million Americans today suffer from some form of neurologic deficit as a result of their stroke. Despite the frequent numbers of strokes, epidemiologic data has focused primarily on mortality rates and associated risk factors, and less on characterizing incident events. While mortality data are informative, they do not fully assess the qualitative nature of incident stroke – the symptoms, sequelae, comorbidities, and other associated deficits that represent the full clinical scope of a stroke event. These data are necessary in order to obtain a more complete understanding of the course and burden of stroke in a population.

Few studies have examined the clinical characteristics of incident stroke in any detail, particularly as part of population based epidemiologic surveillance. Stroke severity data has been reported from the northern Sweden World Health Organization MONICA study, though data were limited to reports of changes in patient consciousness, development of motor deficits (unspecified) and aphasia/dysphasia within 28 days of a stroke event (2). The Perth Community Stroke Study (PCSS) also reported stroke severity symptoms, though these data were also limited in their presentation, consisting of Glasgow Coma, Rankin, and Barthel Index scores (3). The most descriptive evaluation to date was of HMO enrollees in Portland, OR

based on retrospective identification of cases by ICD-9 codes, though these data may have limited generalizability (4).

In light of these limitations, we propose an evaluation of the incident stroke events among the ARIC cohort to better characterize the clinical presentation of incident stroke and outcomes in a community based setting. Completion of this study will allow for the first contemporary reporting of the clinical characteristics of incident stroke obtained from a United States population-based assessment.

## **5. Main Hypothesis:**

This study will be primarily descriptive in nature. We shall seek to accomplish the following study objectives.

1. To describe the clinical characteristics (frequency, of symptoms and signs and deficits) of incident strokes in the ARIC cohort. Symptoms to be examined include neurologic symptoms/signs reported on the cohort abstraction form (time, nature, persistence of onset symptoms) and other admission symptoms including aphasia, hemianopia, diplopia, and dysphagia. Stroke deficits will be evaluated by extent, location and duration of deficit as reported on the stroke abstraction form.
2. Incident stroke characteristics will be evaluated for associations with stroke subtype, race, and gender to determine if clinical characteristics vary between stroke type, race, or gender groups. We hypothesize that symptoms and deficits will be worse among subjects with hemorrhagic events compared to ischemic events, blacks compared to whites, and males compared to females.

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

Data will be drawn from the incident stroke event file for cases from 1987-1997 and variables from the cohort stroke abstraction form (STR).