1.a. Full Title: Exploring the Utility of a Short Version of the ARIC TIA/Stroke Questionnaire

b. Abbreviated Title (Length 26 characters): Short TIA Form

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

   Lead: Roger T. Anderson, Ph.D.
   Address: Department of Public Health Sciences
             Wake Forest University School of Medicine
             Medical Center Blvd,
             Winston-Salem, NC 27157
             Phone: 336-716-7057       Fax: 336-716-7554
   E-mail:
   Writing group members: Doug Levine, Ph.D., LE Chambless, Ph.D., JF. Toole, M.D.,
                          Ulf Schmienke, M.D.


4. Rationale:

A TIA questionnaire has been developed over several years and tested in a few large epidemiologic studies on CVD (e.g., ACAS and ARIC). A preliminary report prepared by Chambless et al., within ARIC, has shown that TIA survey items have a RR of 2.64 to 19.62 for clinical stroke over 9-years of follow-up, reflecting, in part, the observed ratio of true positives to false positives [Additional analyses are being conducted by Dr. Chambless using a more extensive follow-up period and a repeated measures analytic framework.]

A potential use of such a survey or questionnaire is screening in underserved or potentially high-risk populations. Currently there are a few checklists offered for such purposes, but none have been tested and refined to maximize positive predictive value (PVV). Thus, agencies which have a mandate to reduce stroke incidence by detection of risk have little or no information to guide them on the relative value of TIA symptom screening. Unlike what is sometimes the case for research settings, a community-use TIA questionnaire would have to be brief, and easy to administer. Given that the lengthy version of the TIA questionnaire has shown low sensitivity (preliminary results showing 14%) it is likely that short questionnaires have substantially less, and may not be a worthwhile use of resources to reduce stroke incidence.

A chapter of the North Carolina Stroke Association (NCSA) is currently using a short-TIA/Stroke symptoms questionnaire (1-12 items) for community screenings. Reflecting the thoroughness with which the ARIC/ACAS TIA questionnaire was developed, this short form, as
well as other available short forms for TIA risk ascertainment, are a complete subset of the longer ARIC version, and offer an ability to scientifically describe the practicality (in terms of SN, SP, PPV) of each variant instrument. In addition, within the ARIC data, one could explore whether the practicality of a short-form TIA survey can be enhanced by: 1) conditioning the TIA questionnaire scores on data for other CVD risk factors such as hypertension, diabetes, and smoking. 2) Seeking ways to improve the PPV by lowering the false positives (thereby increasing specificity), and 3) Identifying an algorithm that maximizes sensitivity (e.g., weighted scoring).

We will obtain funding from the NCSA to conduct this project.

5. Main Hypothesis/Study Questions:

Hypotheses will not be tested in the proposed exploratory research. We propose to utilize the most recent results from the long version of the TIA questionnaire as a “gold-standard” by which to compare a short form TIA survey that is a subset of the longer form.

Specifically we propose to: 1) Document the validity (using RR, correlational analyses, and calculations of sensitivity and specificity) of a 12-item short form TIA questionnaire that is a subset of the longer ARIC form. 2) Explore whether, and to what extent, the sensitivity and PPV of a short-form TIA questionnaire can be improved in the contexts of other CVD risk factors, and 3) Explore whether a scoring algorithm can be developed that improves the sensitivity and specificity of the short-form TIA questionnaire for clinical stroke over a unit weighted approach (e.g., all items are treated as equally weighted). The proposed research would be viewed as preliminary, and used to determine whether additional studies are merited to replicate the findings obtained in this report.

6. Data (variables, time window, source, inclusions/exclusions): We plan to access the data files use to generate the report by Chambless et al [Use of a standardized TIA/Stroke Symptom Questionnare in a Population Survey]. We would determine the exact file descriptions based on collaboration with Dr. Chambless. The necessary files would need to be sufficient to include ARIC baseline (1987-89) of 15,792 persons for whom a TIA questionnaire was completed, baseline demographics, and CVD risk factor data; files containing participant-linked follow-up data including repeat assessments of the TIA questionnaire, and incident clinical events. Because of the relatively small number of clinical strokes in ARIC, it might be important to include the most recent follow-up wave.

7.a. Will the data be used for non-CVD analysis in this manuscript? ____ Yes  ____ No

b. If Yes, is the author aware that the file ICTDER02 must be used to exclude persons with a value RES_OTH = “CVD Research” for non-DNA analysis, and for DNA analysis RES_DNA = “CVD Research” would be used?  ____ Yes  ____ No

(This file ICTDER02 has been distributed to ARIC PIs, and contains the responses to consent updates related to stored sample use for research.)
8.a. Will the DNA data be used in this manuscript?  ____ Yes  __X__ No

8.b. If yes, is the author aware that either DNA data distributed by the Coordinating Center must be used, or the file ICTDER02 must be used to exclude those with value RES_DNA = “No use/storage DNA”?  ____ Yes  ____ No

9. The lead author of this manuscript proposal has reviewed the list of existing ARIC Study manuscript proposals and has found no overlap between this proposal and previously approved manuscript proposals either published or still in active status. ARIC Investigators have access to the publications lists under the Study Members Area of the web site at: http://bios.unc.edu/units/cscc/ARIC/stdy/studymem.html  

__X__ Yes  _______ No

Discussed at length with Dr. Chambless re: his current and planned analyses regarding TIA/Stroke questionnaire.