ARIC Manuscript Proposal # 1631

PC Reviewed: 4/13/10	**Status: A**	**Priority: 2**
SC Reviewed: _____	**Status: _____**	**Priority: ____**

1.a. Full Title: CVD Health: Prevalence and Outcomes

b. Abbreviated Title (Length 26 characters): CVD Health—Outcomes

2. Writing Group:

Writing group members: Aaron Folsom, Jennifer Nettleton, Hiroshi Yatsuya, Pam Lutsey, Wayne Rosamond, Mary Cushman, OTHERS WELCOME

I, the first author, confirm that all the coauthors have given their approval for this manuscript proposal. __AF___ **[please confirm with your initials electronically or in writing]**

First author:

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ARIC author to be contacted if there are questions about the manuscript and the first author does not respond or cannot be located (this must be an ARIC investigator).

Name: Aaron Folsom

3. Timeline: Draft by late summer 2010

4. Rationale:

As shown by Stamler and colleagues and by our group in ARIC, people with no risk factors rarely develop CVD events. This concept supports a primordial, population-prevention approach to greatly reduce the epidemic of CVD in the US.

The AHA has recently set a 2020 goal that includes "improving CVD health of all Americans by 20%." (Lloyd-Jones DM, et al. Circulation 2010;121:586-613). The suggested definition of ideal CVD health includes the absence of diabetes, CVD and medical treatment for high BP or lipids and:

- Not smoking
- BMI <25
- >=150 min/wk of moderate or >=75 min/wk vigorous exercise (or combination)
- Healthy diet score (4-5 components related to fruits/veggies, fish, whole grains, sodium and sugar-sweetened beverages)
- Total cholesterol <200 mg/dl
- BP <120/<80
- Fasting glucose <100 mg/dl

A category for "Intermediate Health" is also defined.

The prevalence of CVD health, using this definition, in the general middle-aged U.S. population is not clear but likely less than 5%. While the CVD rate is certainly expected to be low in those with ideal CVD health, using this definition, this has not yet been quantified.

5. Main Hypothesis/Study Questions:

What is the prevalence of ideal, intermediate, and poor CVD health at ARIC baseline? What are the absolute rates of CHD, stroke, HF and total CVD in these groups?

6. Design and analysis (study design, inclusion/exclusion, outcome and other variables of interest with specific reference to the time of their collection, summary of data analysis, and any anticipated methodologic limitations or challenges if present).

Design: cohort
Exposure: ideal, intermediate, and poor CVD health at ARIC baseline, by AHA definition (see above). Jennifer Nettleton will help define the diet variables; other risk factor definitions are straight-forward.
Outcome: incidence rates of CHD, stroke, HF and total CVD
Covariates for adjustment or stratification: age, race, sex

Analysis:
1. Exclude non-fasters, those with missing data
2. Define prevalence of CVD health categories at ARIC baseline (by sex and race)
3. Compute absolute rates (and probably PARs) of CVD outcomes by categories. Use Poisson regression models for covariate adjustment or interaction testing.

Likely few people will have ideal CVD health, limiting precision. In so far as possible, rates will be examined by race and sex.

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

b. If Yes, is the author aware that the file ICTDER03 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 ICTDER03 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 ICTDER03 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://www.cscc.unc.edu/ARIC/search.php

___x___ Yes _____ No

10. What are the most related manuscript proposals in ARIC (authors are encouraged to
contact lead authors of these proposals for comments on the new proposal or collaboration)?

There are no current overlapping manuscripts. We have published a few "low risk papers" but they do not use the AHA definition.

Folsom AR, Yamagishi K, Hozawa A, Chambless LE; Atherosclerosis Risk in Communities Study Investigators. Absolute and attributable risks of heart failure incidence in relation to optimal risk factors. Circ Heart Fail. 2009 Jan;2(1):11-7. PubMed PMID: 19808310; PubMed Central PMCID: PMC2637354.

Hozawa A, Folsom AR, Sharrett AR, Chambless LE. Absolute and attributable risks of cardiovascular disease incidence in relation to optimal and borderline risk factors: comparison of African American with white subjects--Atherosclerosis Risk in Communities Study. Arch Intern Med. 2007 Mar 26;167(6):573-9. PubMed PMID: 17389288.

11. a. Is this manuscript proposal associated with any ARIC ancillary studies or use any ancillary study data? ____ Yes __x__ No

11.b. If yes, is the proposal
___ A. primarily the result of an ancillary study (list number* _____)

___ B. primarily based on ARIC data with ancillary data playing a minor role (usually control variables; list number(s)* _____ _____ _____)

*ancillary studies are listed by number at http://www.cscc.unc.edu/aric/forms/

12. **Manuscript preparation is expected to be completed in one to three years. If a manuscript is not submitted for ARIC review at the end of the 3-years from the date of the approval, the manuscript proposal will expire.**