ARIC Manuscript Proposal #2714

1.a. Full Title: Prehospital delay trends and association with survival in ARIC community surveillance.

b. Abbreviated Title (Length 26 characters):

2. Writing Group:
   Writing group members:
   Cameron Guild, Wayne Rosamond, Jessica Zegre-Hemsey, Rachel Silverman

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

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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).

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3. Timeline:
Analysis to begin immediately with first draft to be complete in 3 months.

4. Rationale:

   Expedited reperfusion after acute myocardial infarction is broadly considered of utmost value for patients, and so minimizing the time from symptom onset to hospital arrival—termed “prehospital delay”—is of great interest in patient management. A previous analysis of
prehospital delay trends and patient characteristics in ARIC from 1987-2000 showed little
reduction in the absolute proportion of “longer delay” events over a 13 year period (McGinn et al
AHJ 2005;150:392-400). Longer delays were considered ≥ 4 hours. It also identified
statistically significant racial and gender differences in prehospital delay and EMS use, with
Blacks and women more likely to experience a longer delay; however, these gaps appeared to be
narrowing towards the end of the study period.

Whether or not these trends continue is unclear. It is reasonable to predict continued,
icremental reductions in delay such that the proportion of patients delayed ≥ 4 hours is now
significantly less than previously, but this effect is unknown. ARIC offers superior surveillance
capabilities and diversity for this type of analysis, and consistency with the previous analysis.
This analysis will be enriched because ARIC increased the age range of those under study to
extend to 84 years in 2005. We will also build on the breadth of the previous study by looking at
one year survival as associated with prehospital delay and EMS usage.

Results from this work will inform future hypotheses on recent trends and on how to confront
disparities in prehospital delay, EMS use, and survival.

5. Main Hypothesis/Study Questions:

1. How have previously identified trends in prehospital delay and EMS use changed over
   the past decade with respect to patient characteristics (i.e. race, gender, medical history)?
2. How is hospital delay and EMS usage associated with one year survival?

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).

This paper will use community surveillance data from 2000-2013, with a sub-analysis covering
the period from 2005-2013 when the age range was increased from 35-74 years to 35-84 years.
Prehospital delay will be defined as in McGinn et al, with a dichotomous ≥ 4 hours as was done
previously for consistency. We will use linear regression to calculate the annual percent change
in delay. Logistic regression will be used to identify events associated with delay.

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 ICTDER 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)?
McGinn et al AHJ 2005;150:392-400 (published)
Foraker et al Arch Intern Med 2008;168(17):1874-9 (published)

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/

12a. 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.

12b. The NIH instituted a Public Access Policy in April, 2008 which ensures that the public has access to the published results of NIH funded research. It is your responsibility to upload manuscripts to PUBMED Central whenever the journal does not and be in compliance with this policy. Four files about the public access policy from http://publicaccess.nih.gov/ are posted in http://www.cscc.unc.edu/aric/index.php, under Publications, Policies & Forms. http://publicaccess.nih.gov/submit_process_journals.htm shows you which journals automatically upload articles to PubMed central.

13. Per Data Use Agreement Addendum for the Use of Linked ARIC CMS Data, approved manuscripts using linked ARIC CMS data shall be submitted by the Coordinating Center to CMS for informational purposes prior to publication. Approved manuscripts should be sent to Pingping Wu at CC, at pingping_wu@unc.edu. I will be using CMS data in my manuscript ___ Yes    __x__ No.
https://www.hsaj.org/articles/262