

NOTE: ARIC manuscript proposal #905 has been merged with #880

ARIC Manuscript # 880

PC Reviewed: 05/09/02 Status: A Priority: 2

SC Reviewed: 05/14/02 Status: A Priority: 2

1a. Full Title:

Retrospective Ascertainment of Early Life SES: Experiences from the Life Course SES, Social Context, and Cardiovascular Disease Study

1b. Abbreviated Title: Obtaining Information on Past SES

2. WRITING GROUP:

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3. TIMELINE:

Development of the manuscript would begin as soon as possible. Some simple descriptive analyses using the preliminary data from the SES supplemental AFU questionnaire will initially be used. These analyses will be updated after the final SES AFU dataset becomes available (Anticipated date: Summer, 2002). Thus, it is expected that a draft of a manuscript would be completed by Fall 2002.

4. BACKGROUND AND RATIONALE

The inclusion of an assessment of the impact of the neighborhood environment on health outcomes is becoming increasingly common in studies trying to address the impact of social factors on health outcomes (refs). Likewise, there has been an increased interest in expanding the evaluation of socio-economic exposures from an assessment of current circumstances to include measures of SES from earlier points in childhood and adulthood (refs). However, to our knowledge, few studies have incorporated an assessment of earlier life neighborhood exposures in their studies. "Life Course SES, Social Context, and Cardiovascular Disease", an ancillary study to the ARIC study, is currently collecting historical residential data in an attempt to reconstruct the neighborhood /social environments of cohort survivors across their life course.

An SES supplement has been added to the current ARIC telephone AFU questionnaire, enabling us to retrospective query information about earlier life SES circumstances. Part of this effort involves collecting information about place of residence during childhood (county, city, state) and at ages 30, 40, and 50 (street address). The historical adult addresses will be geocoded and then linked to census tract-level socio-environmental data from the appropriate census year. Similarly, the childhood place of residence data will be linked with county-level census data for the appropriate year.

The proposed paper will be methodologically focused. It will address issues related to retrospectively collecting data on historical residences (e.g., response rates, errors in recall), as well as document and discuss issues involved in geocoding historical addresses and then successfully linking them with historical census data. Such information could provide guidelines for other investigators who wish to attempt similar projects.

5. Main Hypotheses/Study Questions

Part I. The first set of questions will focus on quantifying success rates for queries of earlier life SES neighborhood exposures. These include:

1. What proportion of participants are able to recall their historical addresses?
 - a. Does this vary by life epoch (childhood, and at ages 30, 40, and 50)?
 - b. Does the ability to recall a historical address decrease as the number of years subsequent to this time increases?
 - c. What are the sociodemographic correlates of recall (age, sex, race, adult SES)?
 - d. Can the residential history data provided by the participant be corroborated? (For ages 30-50, city or phone directories for the same time period will be consulted and a validation study based on a limited sample size would be attempted.
2. For each of the four time periods, for those who were able to recall information about their previous addresses:
 - a. Is the address information provided sufficient to attempt geocoding?
 - i. At what geographical unit?
 - b. What are common (apparent) errors/omissions?
 - c. To what extent are errors correctable?
 - i. Describe methods used to identify and correct errors.

Part II. The second portion of the paper will focus on issues relating to successfully geocoding historical address and then linking them to appropriate census data. Questions that will be addressed include:

For ages 30, 40, and 50:

1. What proportion of addresses (at each age group / census year?) were successfully geocoded by the commercial geocoding firm?
 - a. At what level were matches made?
 - b. What were the most common reasons for the lack of a match?
 - i. Errors / Incomplete address information
 - ii. Change in street numbering
 - iii. Street is moved

- iv. Lack of correspondence between current (1990) and historical boundaries (untracked data, PO Boxes, incorporation of area into a town, county boundary shifts, etc.)
- 2. For those addresses that were successfully geocoded:
 - a. What proportion were successfully linked back to their historical census tract (for ages 30, 40, and 50)?
 - b. What methods were used to do this?
 - i. Overlaying census tract for appropriate year and geocoded addresses
 - ii. Using comparability files of census tracts between census years
 - c. Could those living in non-tracked areas be successfully placed into a meaningful unit? If so, what method was used?
 - d. Are the results reliable/repeatable?
 - i. Do geocodes assigned match across the two companies used?
 - ii. Do results vary when census tracts are overlayed vs. The comparability file sare used?

For childhood:

- 1. What proportion of addresses where successfully linked to county-level census data?
- 2. Disucss the limitations of county-level data

Part III:

The final section of the paper will focus on issues related to the availability and meaning of census data from the different decades of interest. We will asses comparability of data across time and discuss how this affects the utility of the data. Potential strategies for dealing with changes across time will be discussed.

6. DATA, DESIGN, AND ANALYSIS

We will use the historical address data obtained from the SES dataset from the current telephone AFU. Addresses will be geocodes by a commercial firm and linked with appropriate census data. After error flags are created and geocodes are included, the original addresses will be deleted from the files. The address-related information will be merged with selected socio-demographic variables from other baseline ARIC datasets (age, race, sex, field center, adult education).

As this study is methodological, there is no design per se. Also, analyses will be limited to simple statistics (frequencies and proportions).

7.a. Will the data be used for non-CVD analysis in this manuscript? ____ Yes
 ____ No (I need your advice on how to answer this item)

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 ☒ 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/csccl/ARIC/stry/studymem.html>

☒ Yes ☐ No