MORTALITY PREDICTION USING SELF-RATED HEALTH AND MORTALITY EXPECTATIONS

CSDI 2013
OVERVIEW

- Mortality prediction
  - Why?
  - Survey-based predictors
- Data and methods
- Results
- Implications
MORTALITY PREDICTION

- Individual decision making
  - Finance
  - Health and health care
- Age-based public policy decisions
  - Public expenditures
  - e.g., Social Security, Medicare in the US
- Difficult to predict!
Self-rated health (SRH)
- “Would you say your health is excellent, very good, good, fair, or poor?”
- Public health

Subjective mortality expectations (SME)
- “What is the percent chance that you will live to be [CERTAIN AGE] or more?”
- Economics, demography

Hold cross-culturally? Hispanics?
DATA AND METHODS

- Health and Retirement Study (HRS)
  - Baseline data: HRS 2000
    - Both SRH and SME included
    - Born in 1947 or prior years
    - Self-respondents ages 50-89 (n=16,722)
  - Mortality data: HRS 2010 tracking info
    - Available for 12,805 of the baseline sample
    - Link baseline and mortality data
RESULTS: BASELINE SRH

% Excellent, Very good, Good health in 2000
RESULTS: BASELINE SME

% Survival Expectations Upto Specified Age in 2000

- 50-65 yrs
- 65-69 yrs
- 70-74 yrs
- 75-79 yrs
- 80-84 yrs
- 85-89 yrs
- Male
- Female
- Non-Hispanic
- Hispanic
- H_English
- H_Spanish
- NH_Male
- NH_Female
- H_Male
- H_Female
- High School
- Some College
RESULTS: SUBSEQUENT MORTALITY

%SME: 50% vs. 43%  48% vs. 37%
+ SRH: 77% vs. 59%  70% vs. 48%
RESULTS: SRH AND SME BY MORTALITY

% Survival Expectations in 2000

- Alive 2010
- Deceased 2010

% Excellent, Very good, Good Health in 2000

- Alive 2010
- Deceased 2010

* Difference between alive and deceased in 2010 significant at $p<0.05$
IMPLICATIONS

- Preliminary, but!
  - Both SME and SRH, good predictors
    - Some quirks with SME and younger age
  - Not as good for Hispanics, especially,
    - Spanish-speaking Hispanics
  - Hispanic males
WHAT’ S NEXT?

- Further data exploration
  - Mortality prediction based on vital stats table
  - National death index for refining subsequent mortality status
  - Expectations scale usage

THANK YOU!!

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