

Time-to-death patterns in markers of age and dependency

T. Riffe ¹ P. H. Chung ¹ J. Spijker ² J. MacInnes ³

¹Department of Demography
University of California, Berkeley

²Wittgenstein Centre (IIASA, VID/ÖAW, WU), Vienna Institute of
Demography/Austrian Academy of Sciences

³School of Social and Political Science
University of Edinburgh

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Formal to empirical

This work was inspired by some formal demographic results that begged the question

The question:

What kinds of demographic phenomena vary in informative and empirically regular ways by remaining years of life?

Formal to empirical

Assumption:

Many late-life conditions are probably best described as functions of remaining years of life.

Function:

in the sense of (modellable) temporal structure, not causation.

An aside

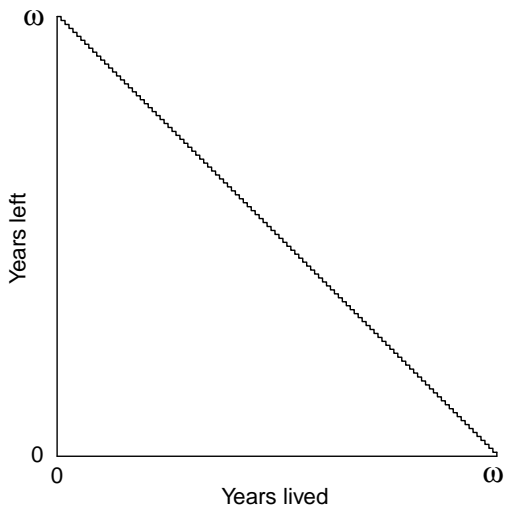
Note 1:

A characteristic varying over the lifespan could be a function of both time since birth and time to death.

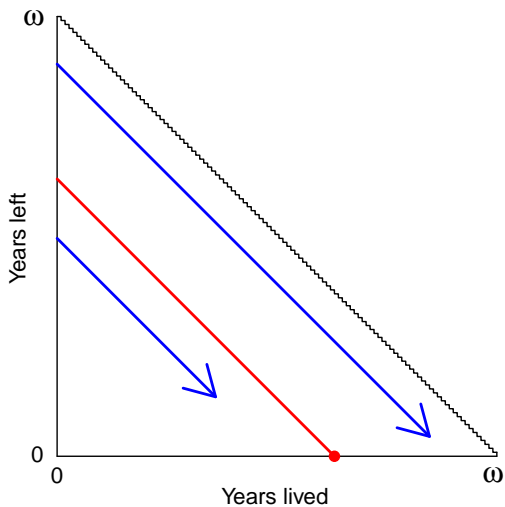
Note 2:

If a characteristic varies by time to death and not by chronological age, it may still appear to be a function of time since birth when aggregated by chronological age (and vice versa).

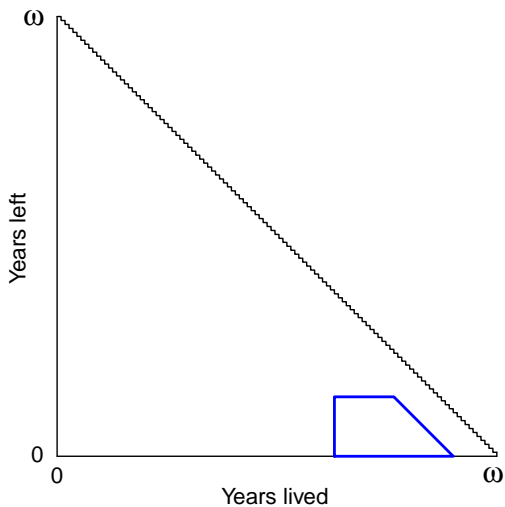
Lifespans and time



Lifespans and time



Area examined



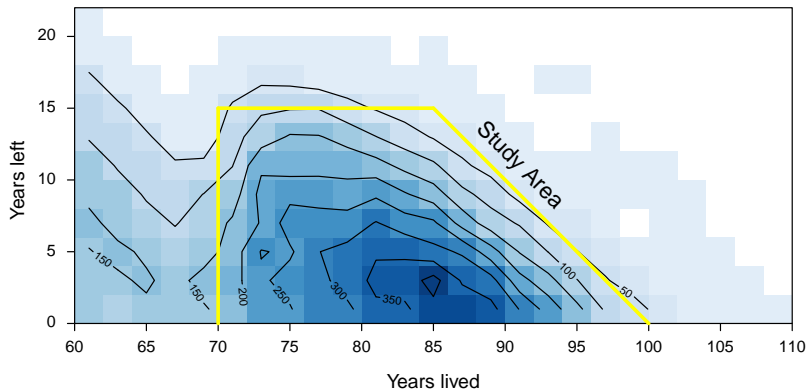
Data

US HRS

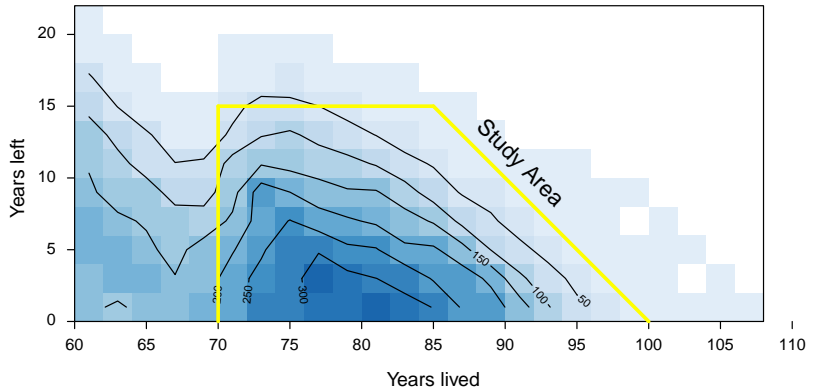
10 waves spanning 20 years (1992-2011)

47530 observations of 11520 individuals observed until death,
about 53% female.

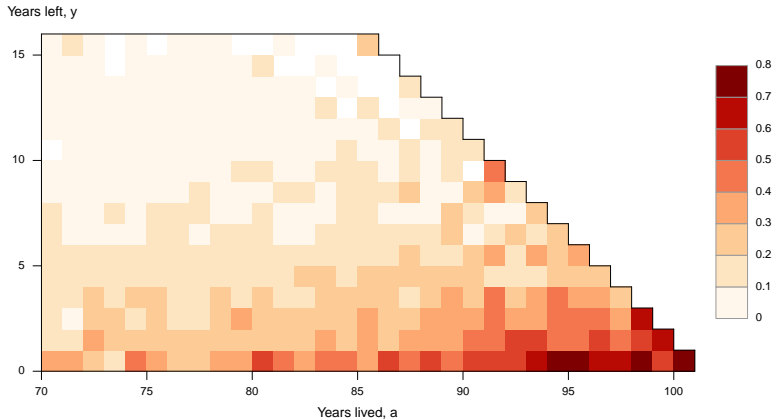
Data, females



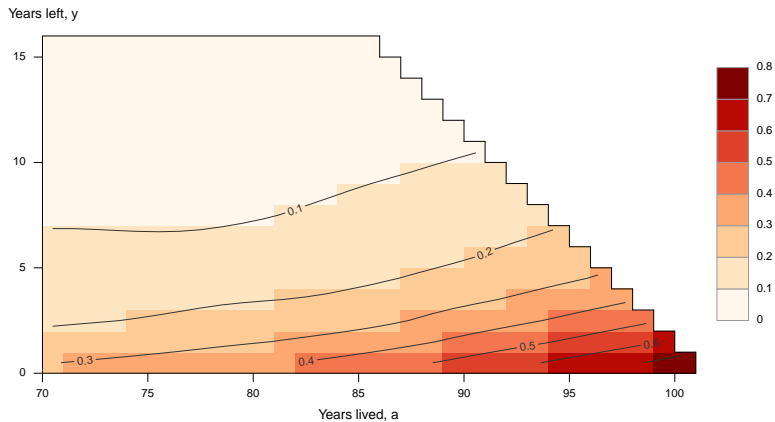
Data, males



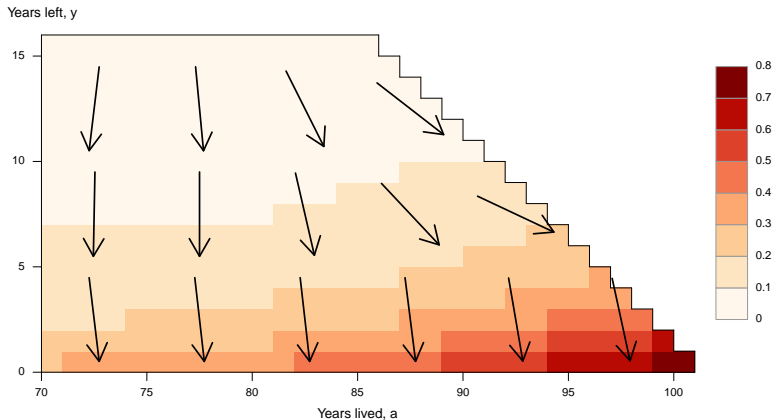
Example: binned (ADL3, females)



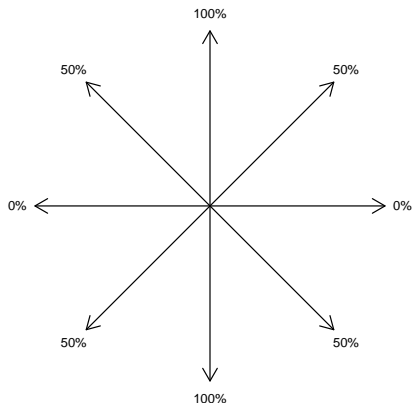
Example: loess smoothed (ADL3, females)



Example: characterization (ADL3, females)



Convert arrows to percent thanatological



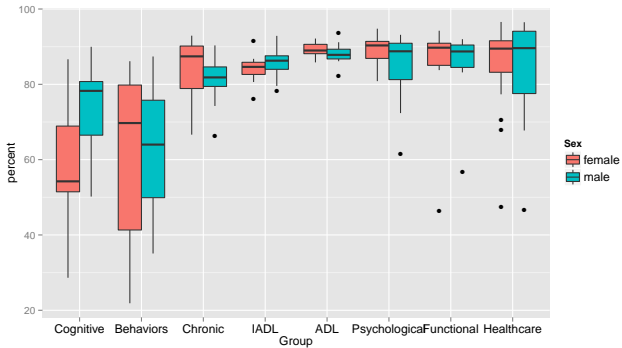
Example: summary (ADL3, females)

- take mean percentage of all arrows
- for ADL3, females, we have 89% vertical / 11% horizontal.
- ADL3 is 89% a TTD story (for this region of the age surface)

Characteristics explored

- ADL (8 items)
- IADL (9 items)
- Healthcare usage (9 items)
- Functional limitations (6 items)
- Health behaviors (5 items)
- Chronic conditions (9 items)
- Psychological conditions (10 items)
- Cognitive function (19 items)

Results summary



Results (cont)

- All surfaces in one pdf file by email or USB
- tim.riffe@gmail.com
- Thanks!