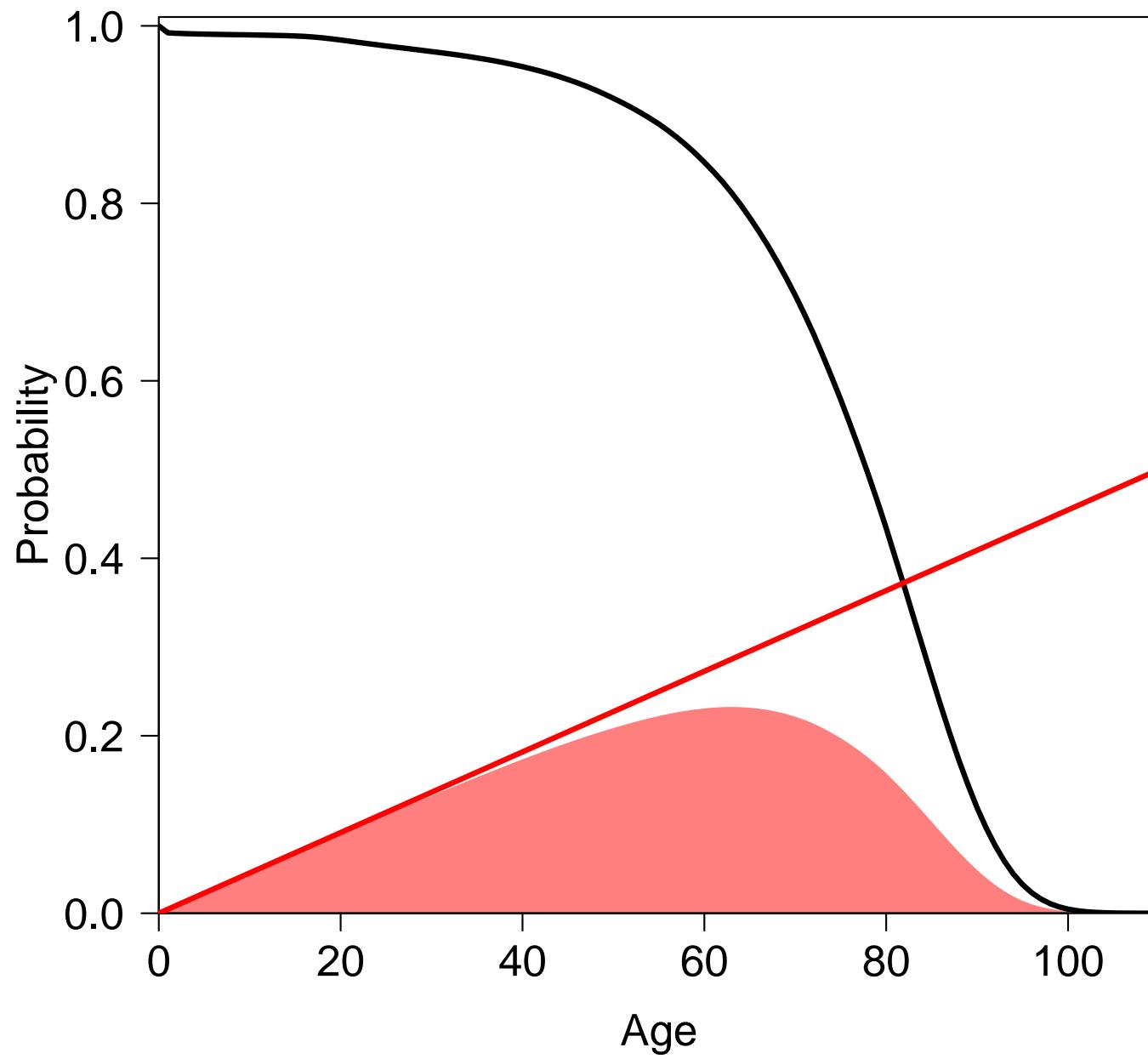


MAX PLANCK INSTITUTE
FOR DEMOGRAPHIC
RESEARCH

Prevalence and the variance of state occupancy time

Tim Riffe and Iván Williams



Question:

Question: In a Sullivan setting,
can we know the variance of
state occupancy time?

Answer:

Answer: No, sorry.

Answer: No, sorry.
But wait!

Preliminary observations

Preliminary observations

- ▶ life **trajectories** come first

Preliminary observations

- ▶ life **trajectories** come first
- ▶ observed or generated

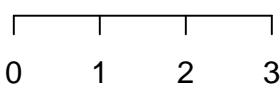
Preliminary observations

- ▶ life **trajectories** come first
- ▶ observed or **generated**
- ▶ **assumptions** required

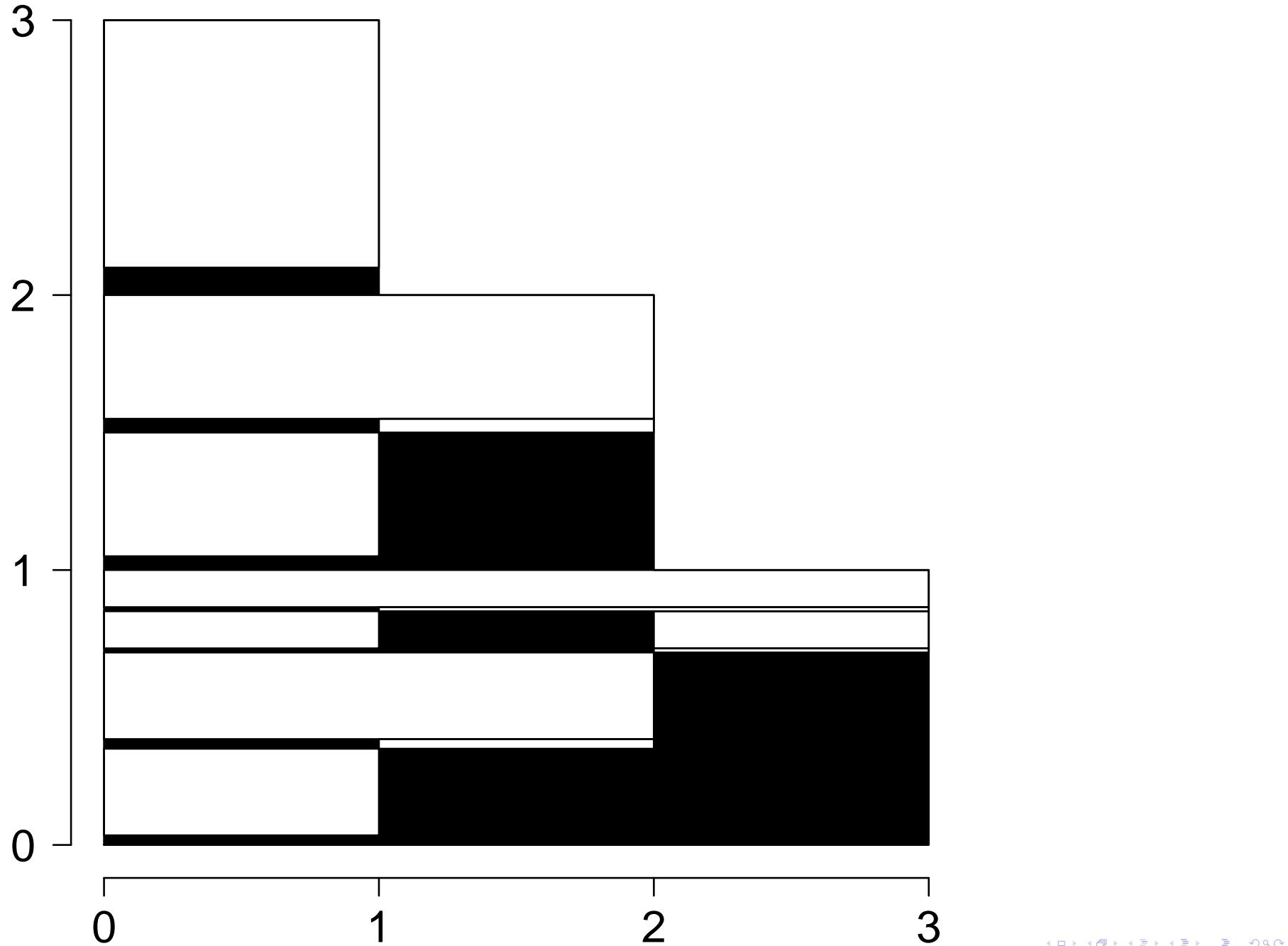
Preliminary observations

- ▶ life **trajectories** come first
- ▶ observed or **generated**
- ▶ **assumptions** required
- ▶ let's explore some

| | | |
|----|---|---|
| 1 | 0 | |
| 2 | 1 | |
| 3 | 0 | 0 |
| 4 | 1 | 0 |
| 5 | 0 | 1 |
| 6 | 1 | 1 |
| 7 | 0 | 0 |
| 8 | 1 | 0 |
| 9 | 0 | 1 |
| 10 | 1 | 1 |
| 11 | 0 | 0 |
| 12 | 1 | 0 |
| 13 | 0 | 1 |
| 14 | 1 | 1 |



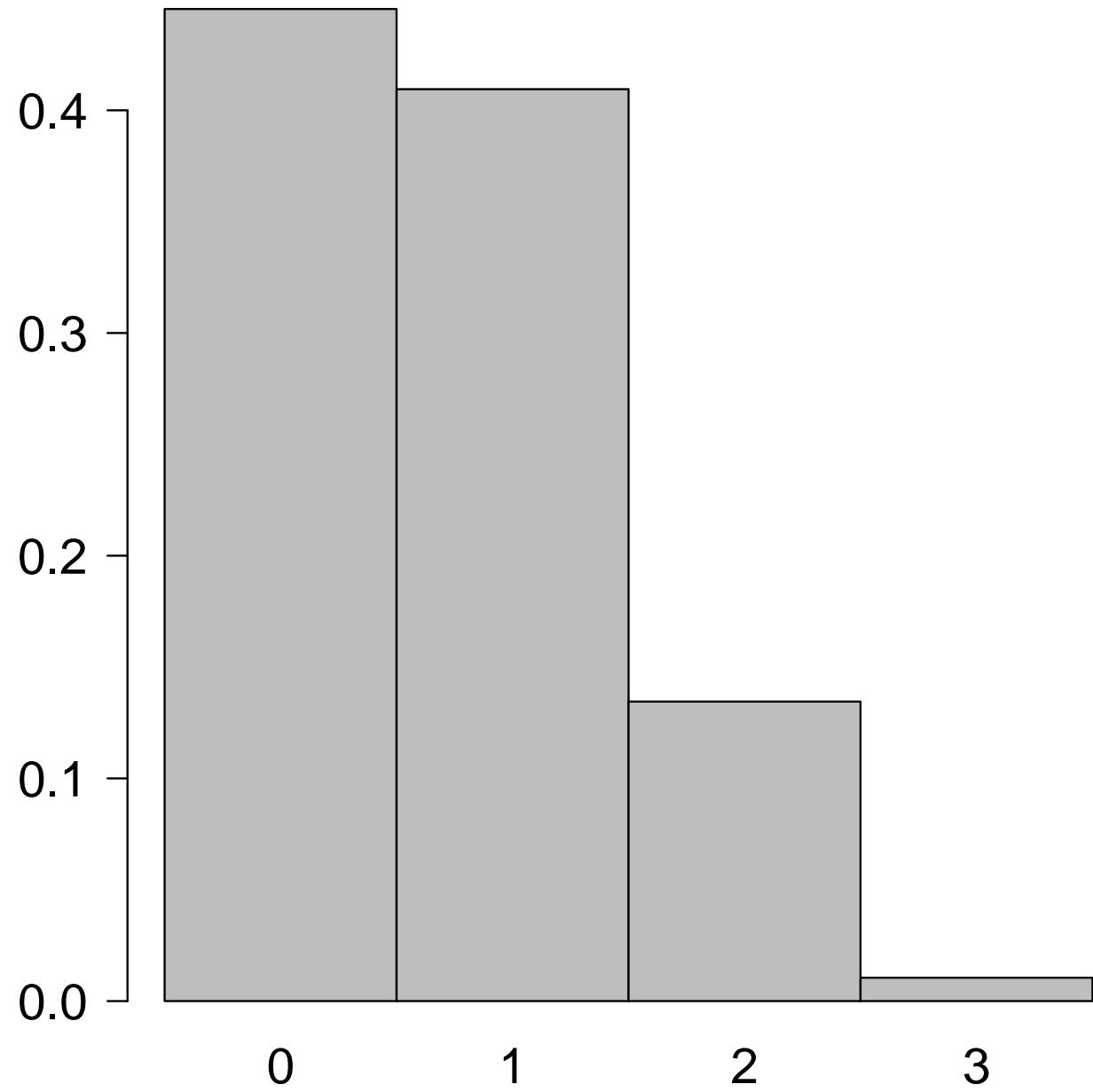
| | | | |
|----|-----|-----|-----|
| 1 | 0.9 | | |
| 2 | 0.1 | | |
| 3 | 0.9 | 0.5 | |
| 4 | 0.1 | 0.5 | |
| 5 | 0.9 | 0.5 | |
| 6 | 0.1 | 0.5 | |
| 7 | 0.9 | 0.5 | 0.3 |
| 8 | 0.1 | 0.5 | 0.3 |
| 9 | 0.9 | 0.5 | 0.3 |
| 10 | 0.1 | 0.5 | 0.3 |
| 11 | 0.9 | 0.5 | 0.7 |
| 12 | 0.1 | 0.5 | 0.7 |
| 13 | 0.9 | 0.5 | 0.7 |
| 14 | 0.1 | 0.5 | 0.7 |



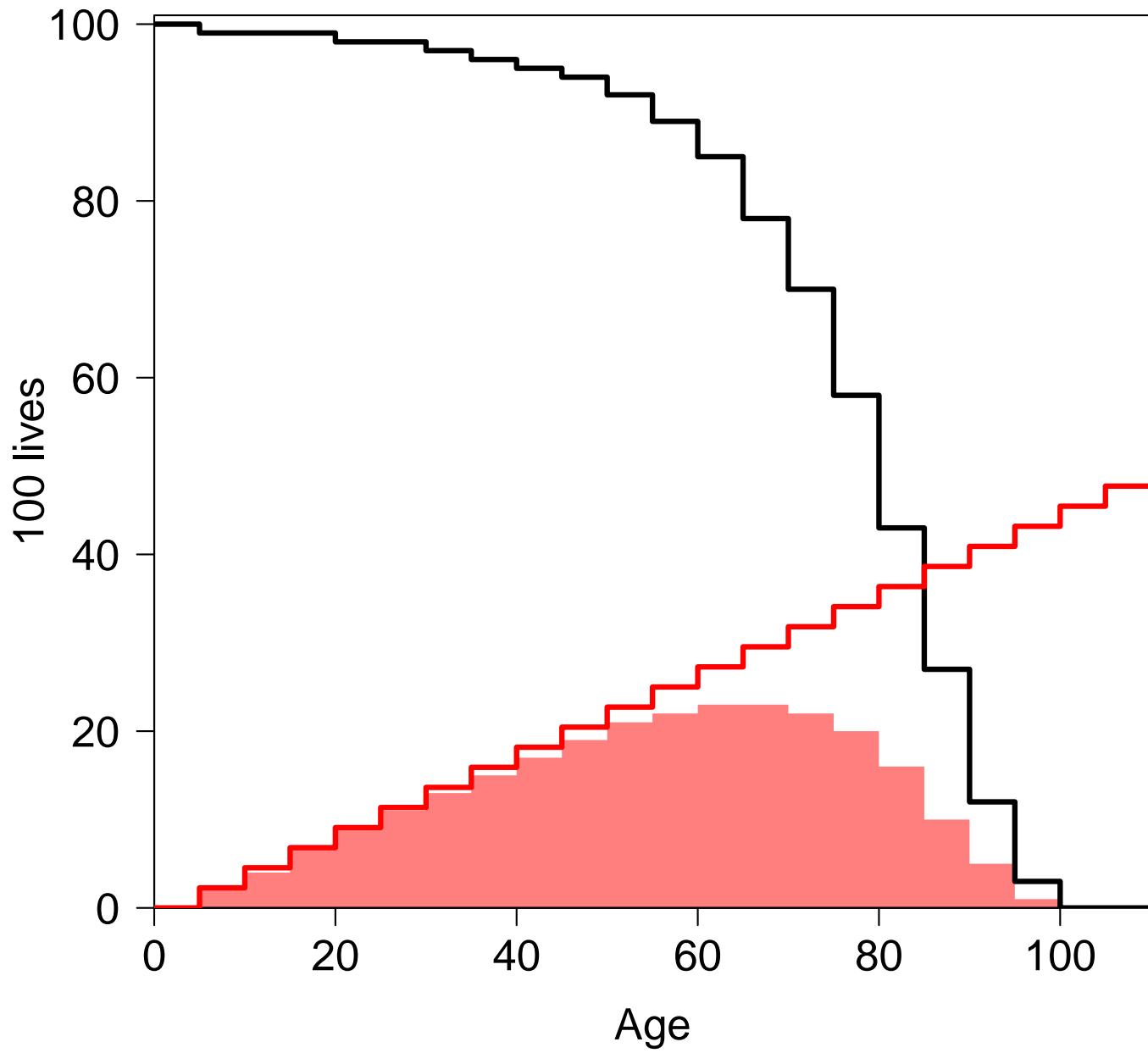
1
0

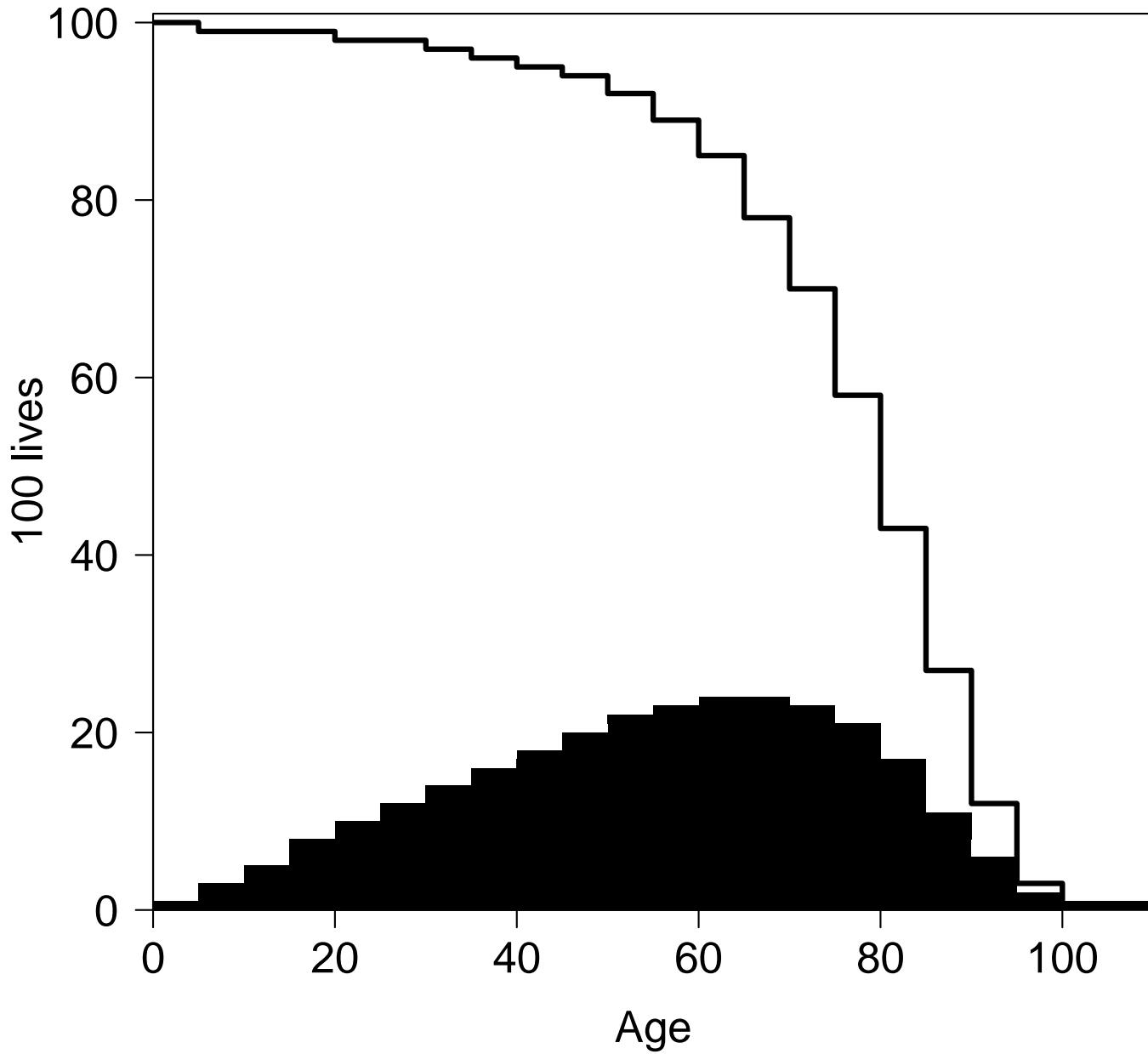
0 1 2 3

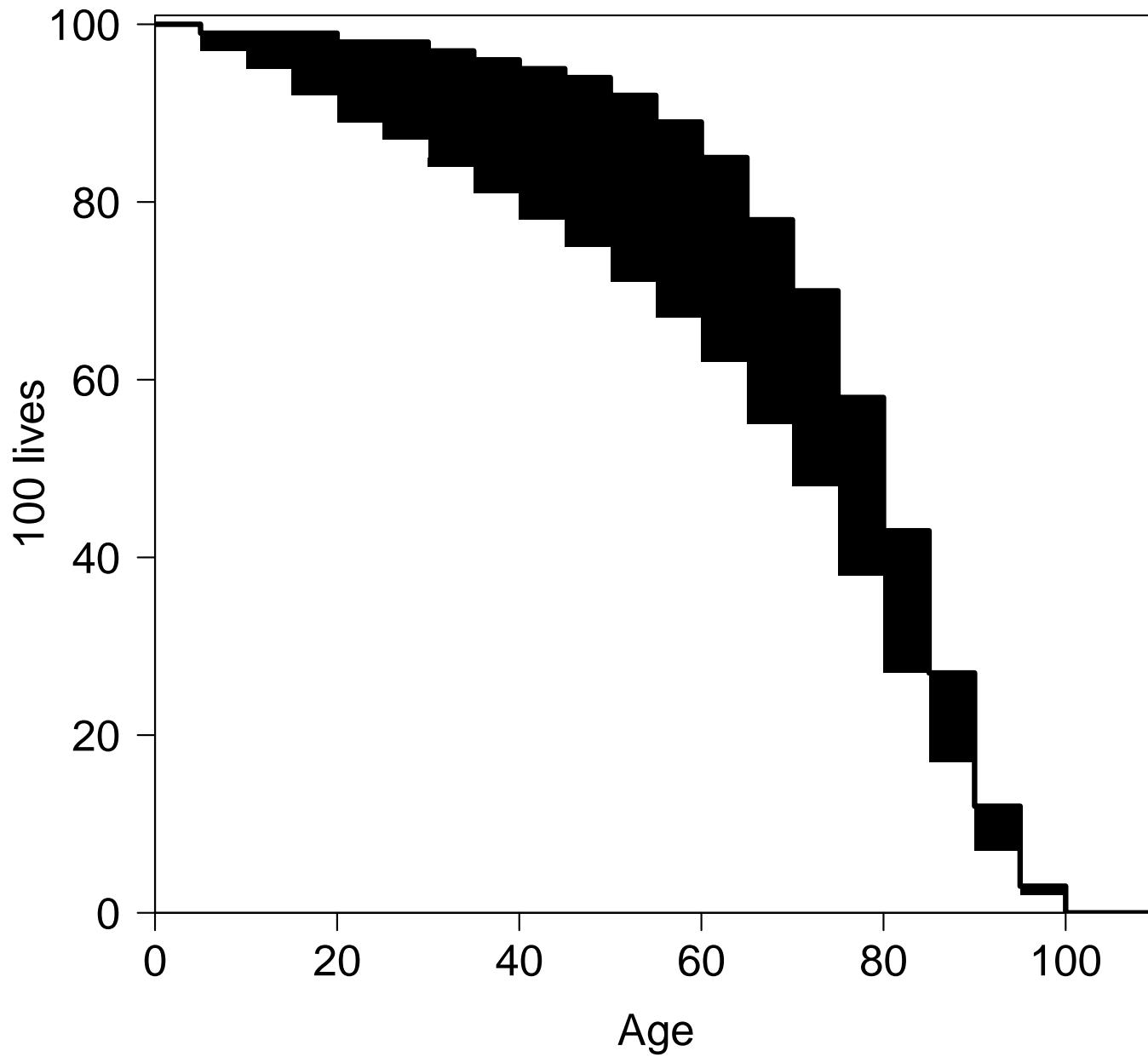


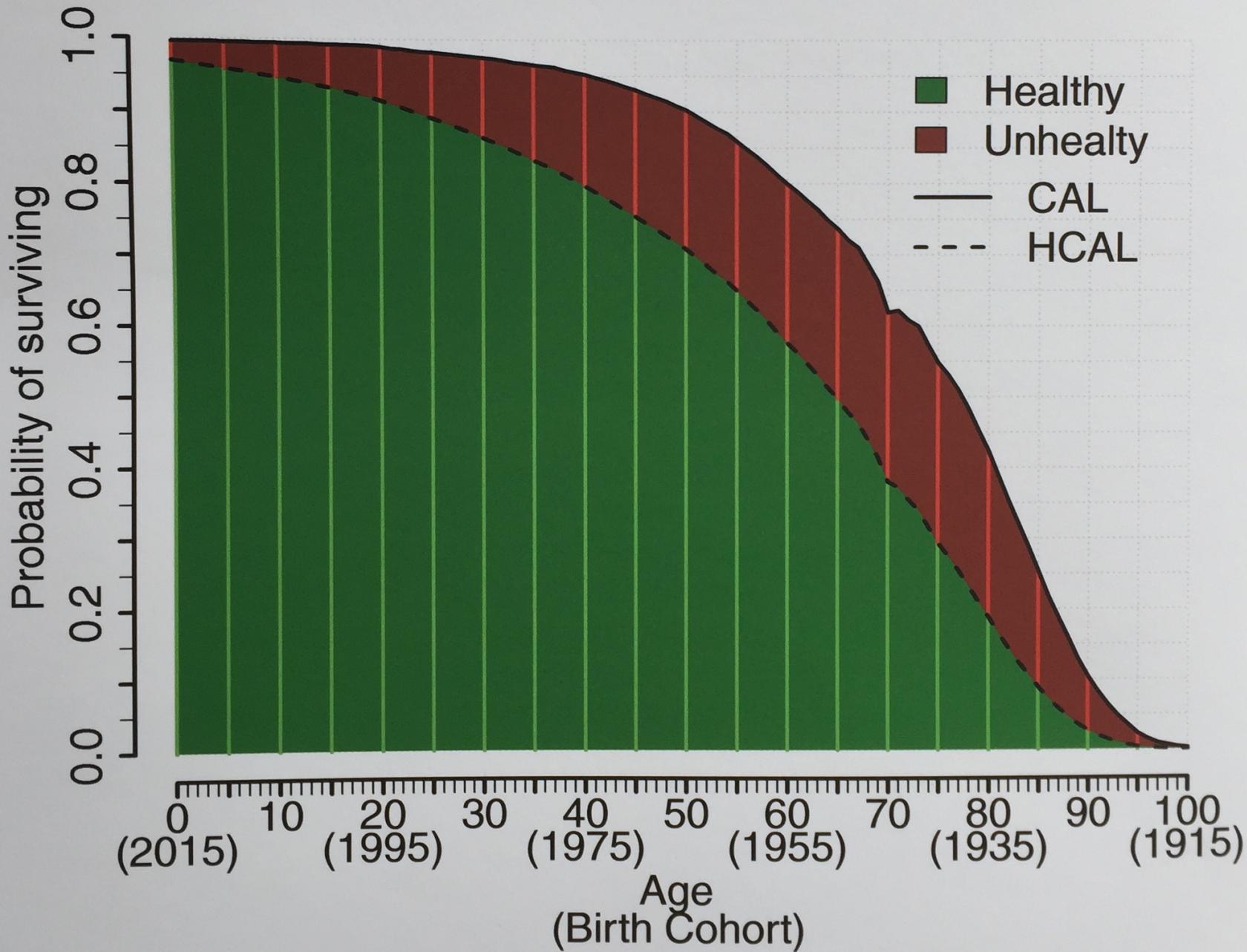


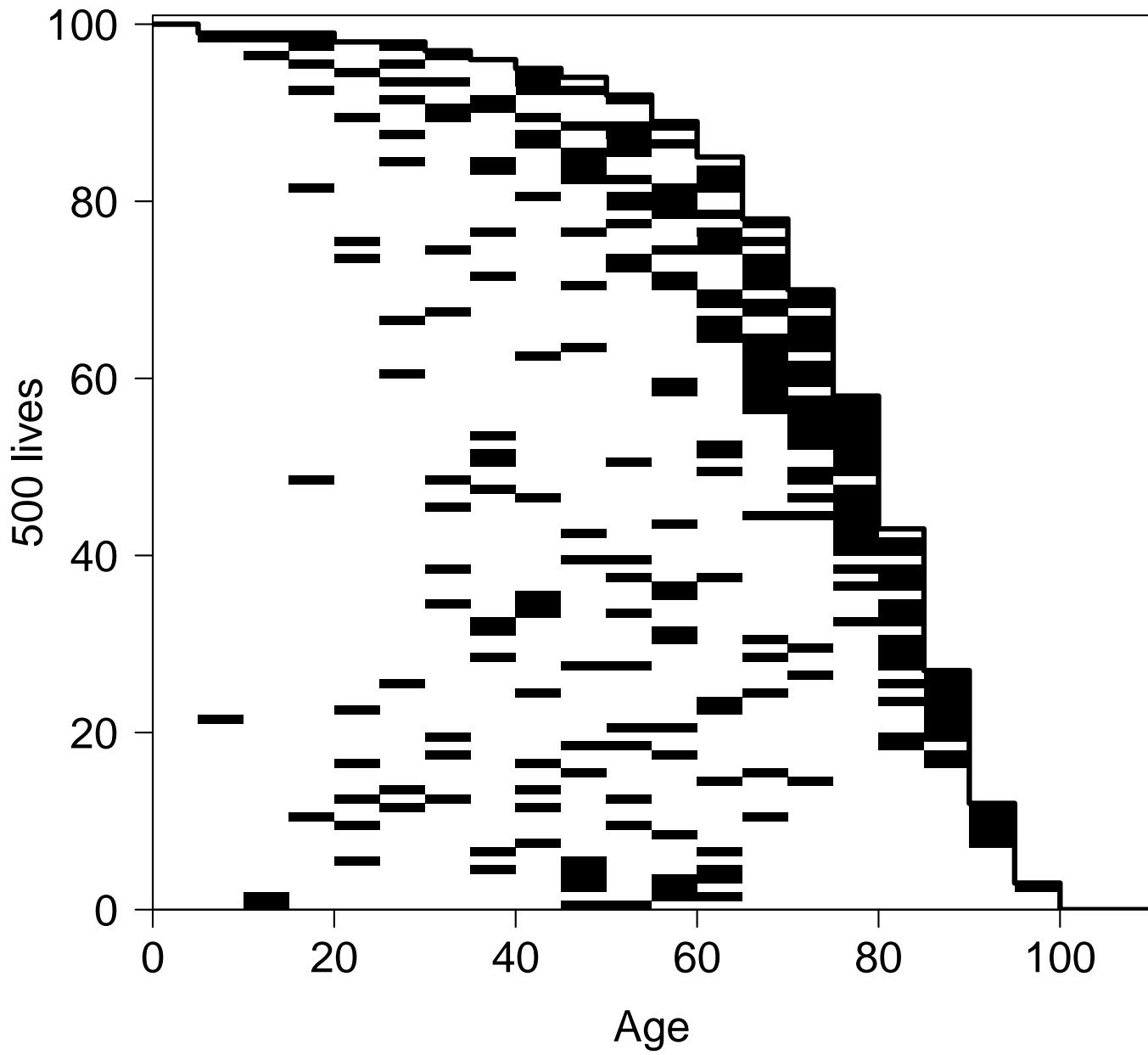
Many ways to combine
survivorship and prevalence. . .

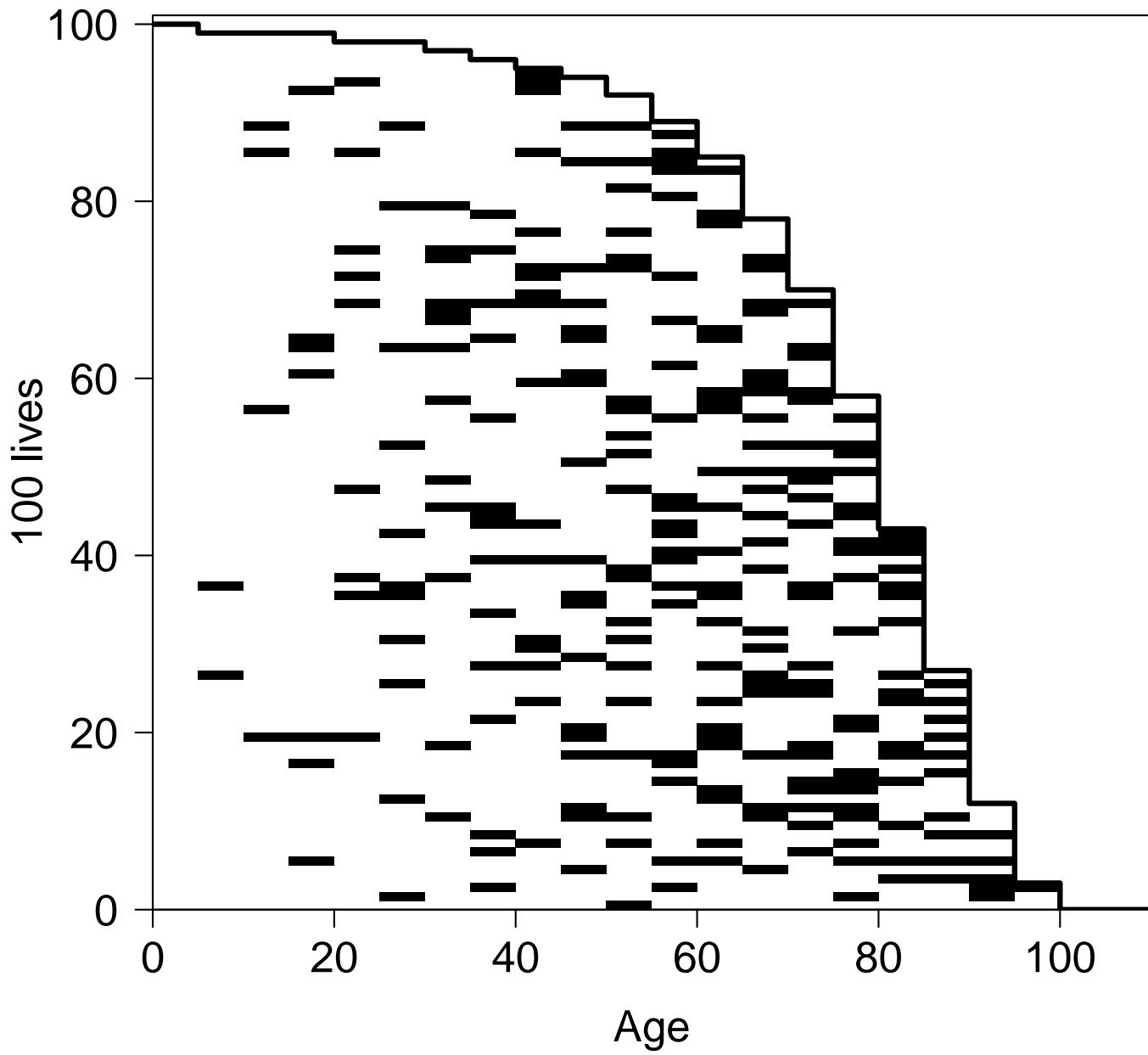


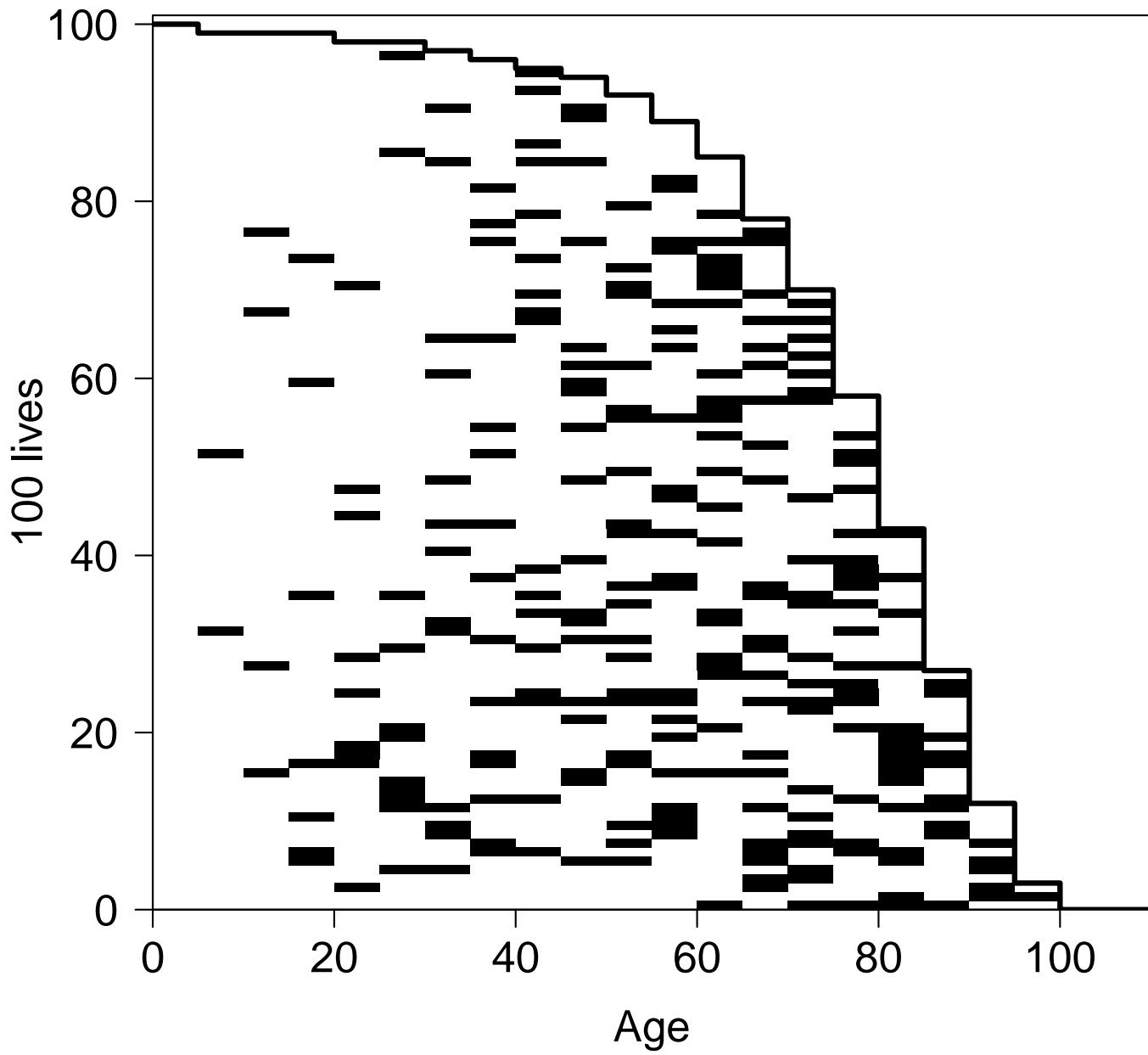


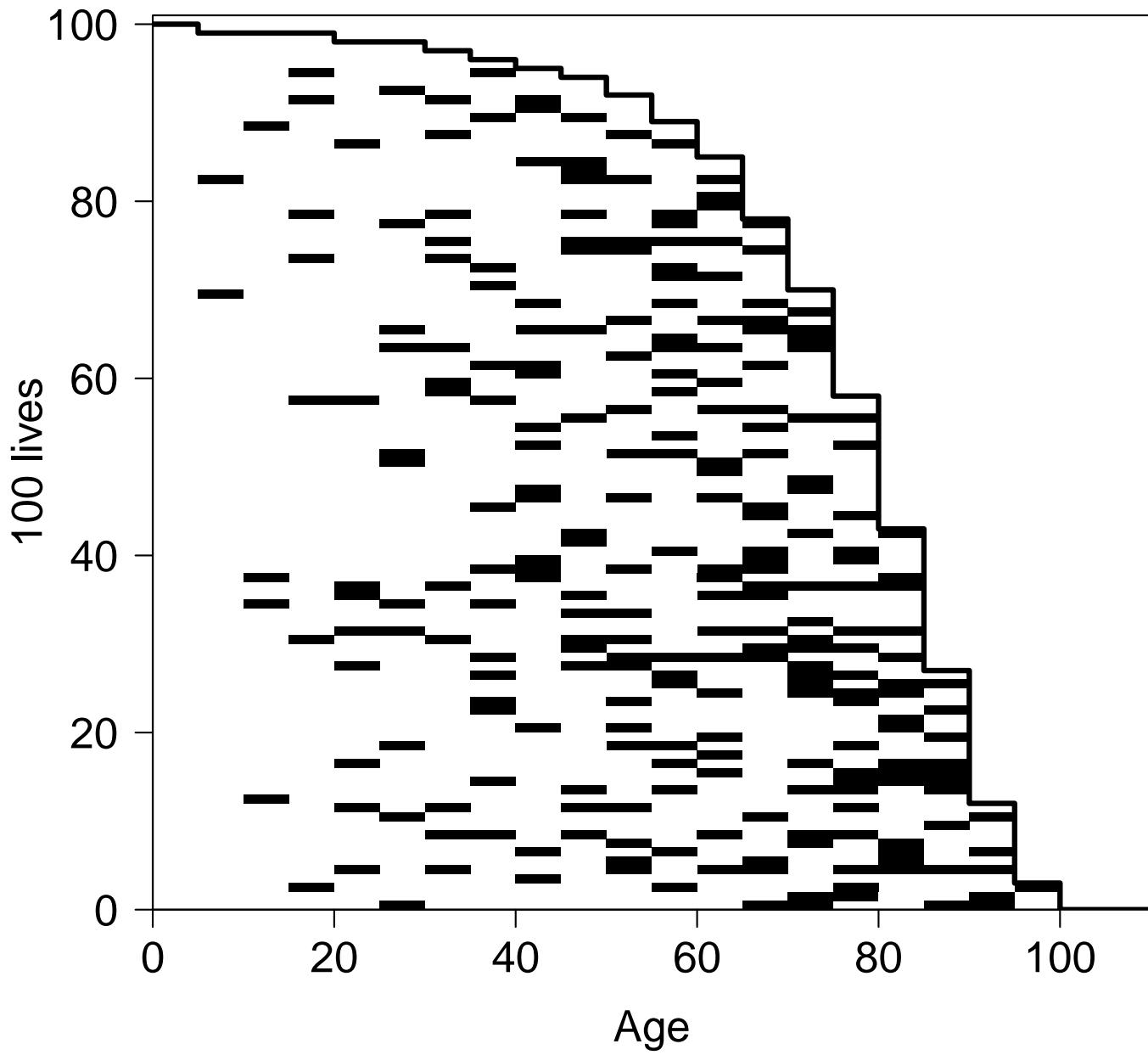


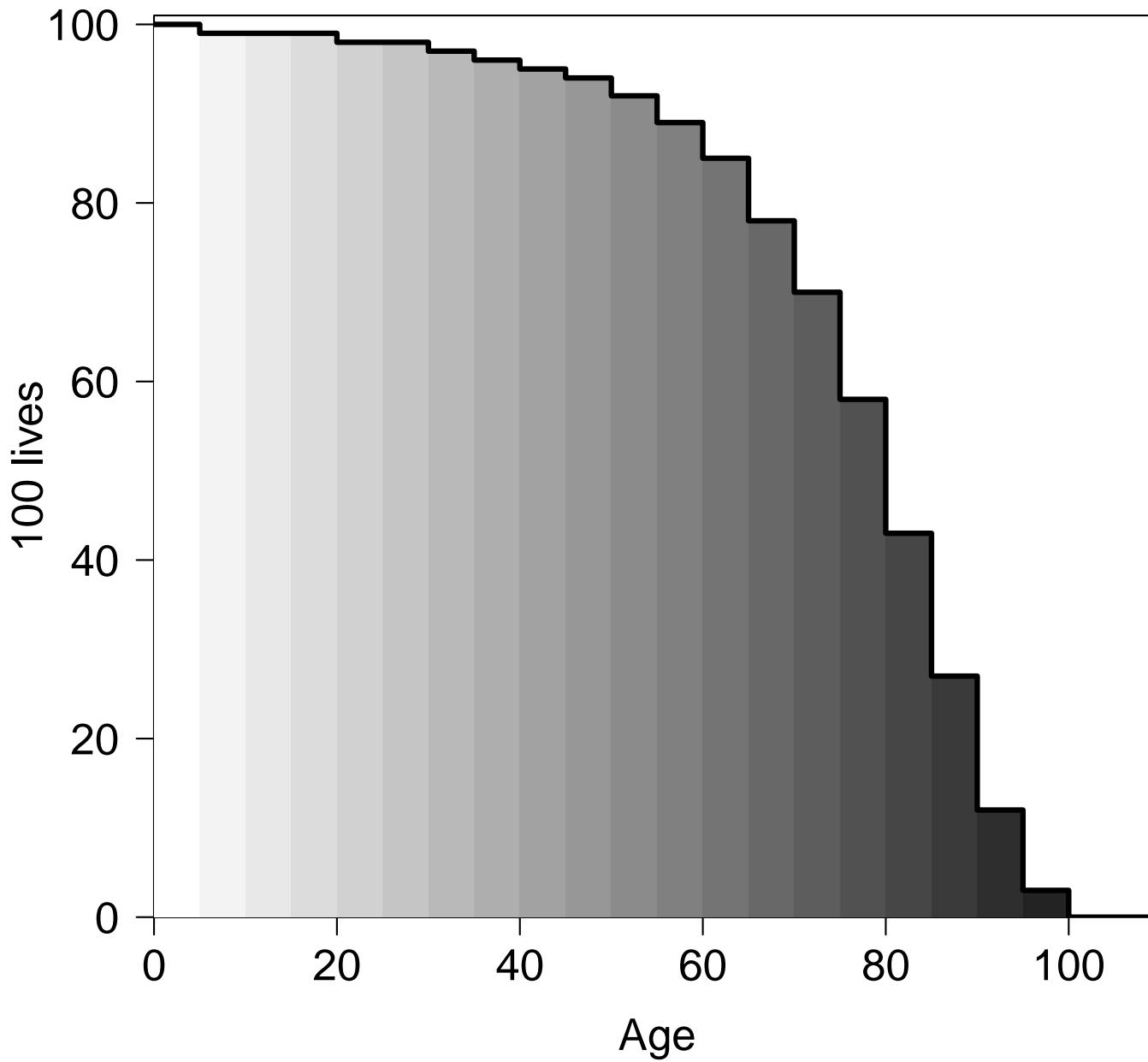




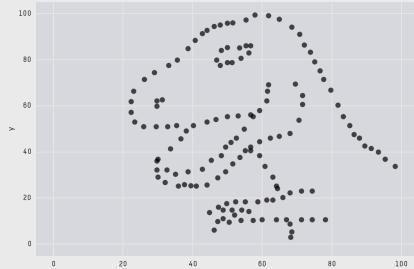








Anscombosaurus (HT Alberto Cairo)



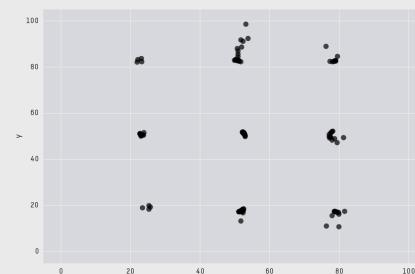
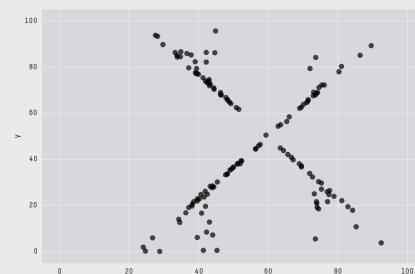
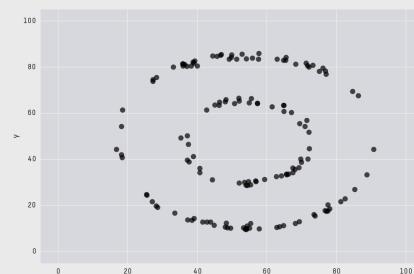
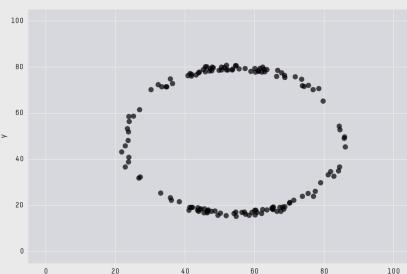
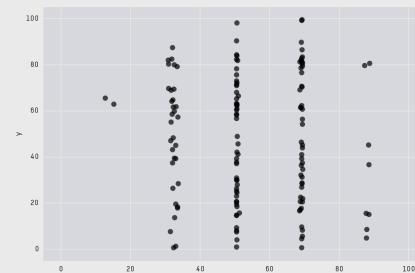
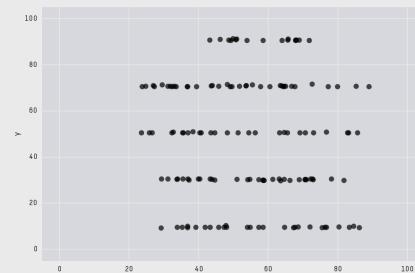
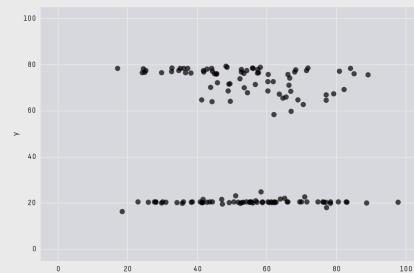
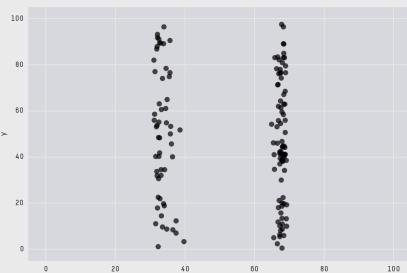
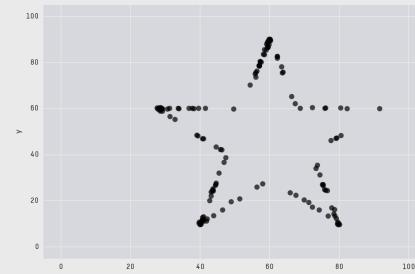
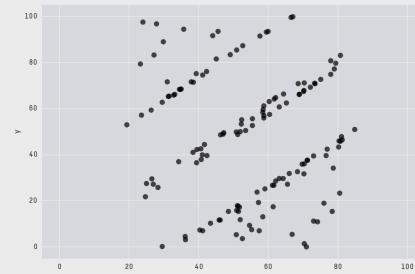
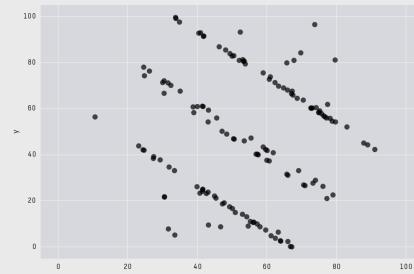
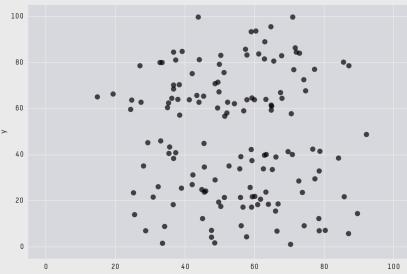
X Mean: 54.26

Y Mean: 47.83

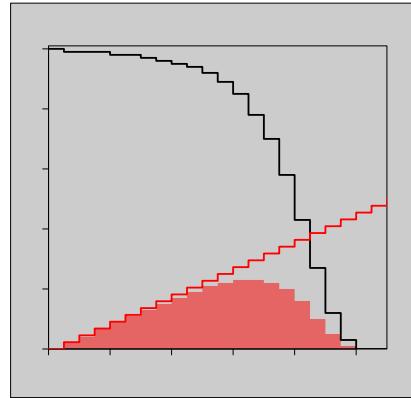
X SD : 16.76

Y SD : 26.93

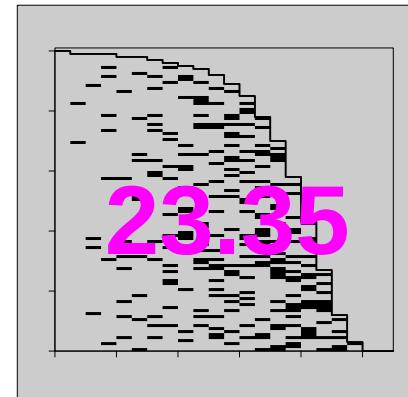
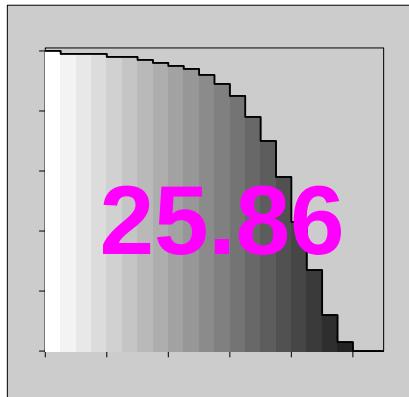
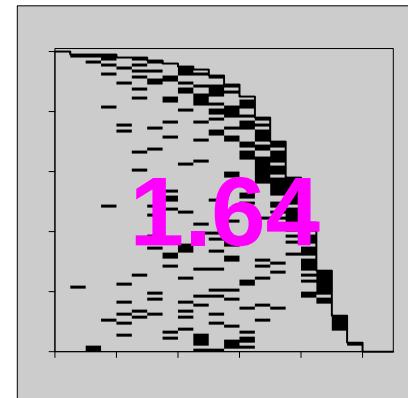
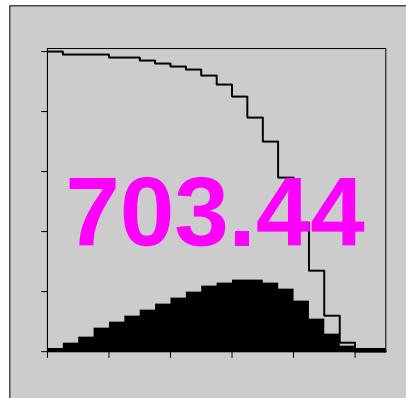
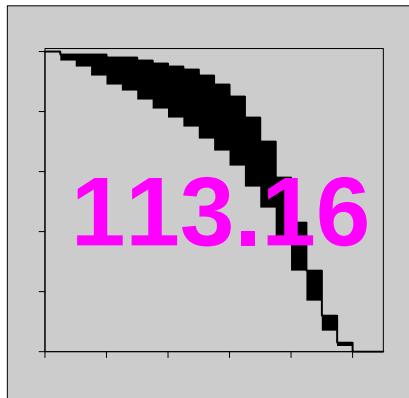
Corr. : -0.06



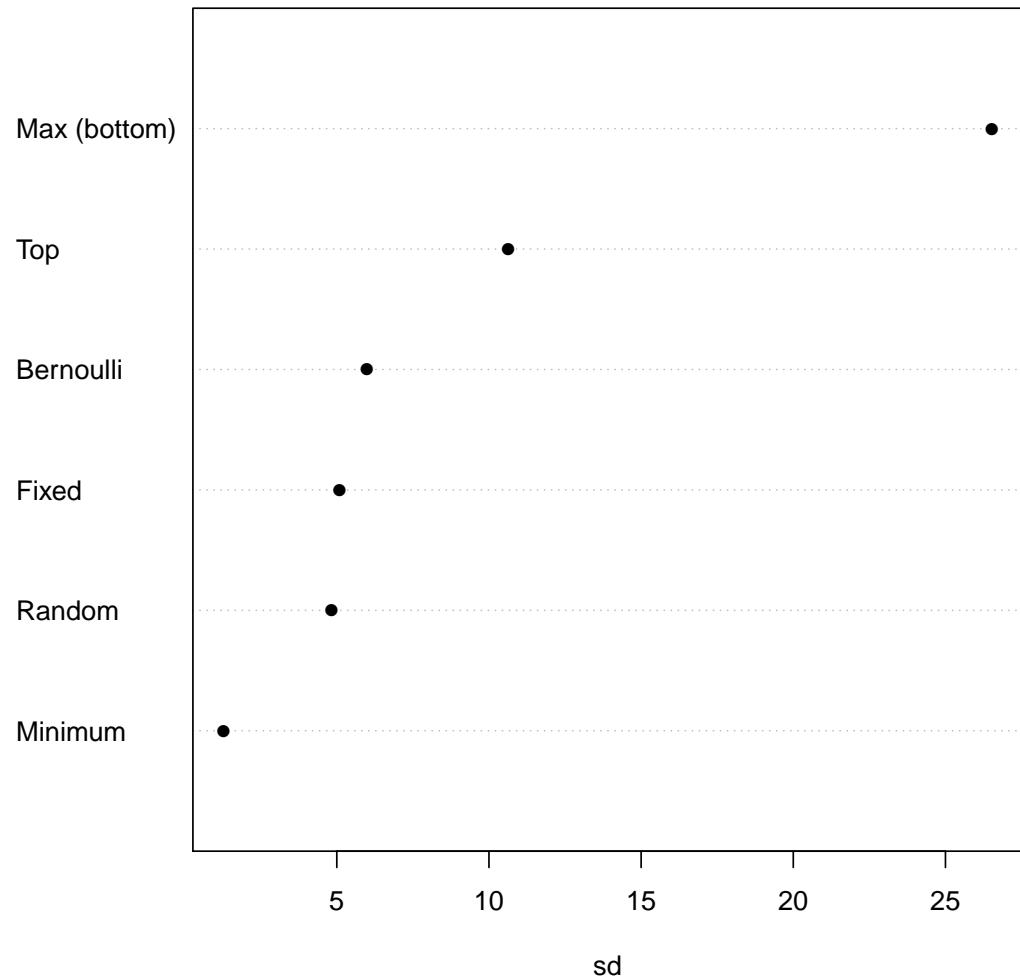
Sullivans Sextet



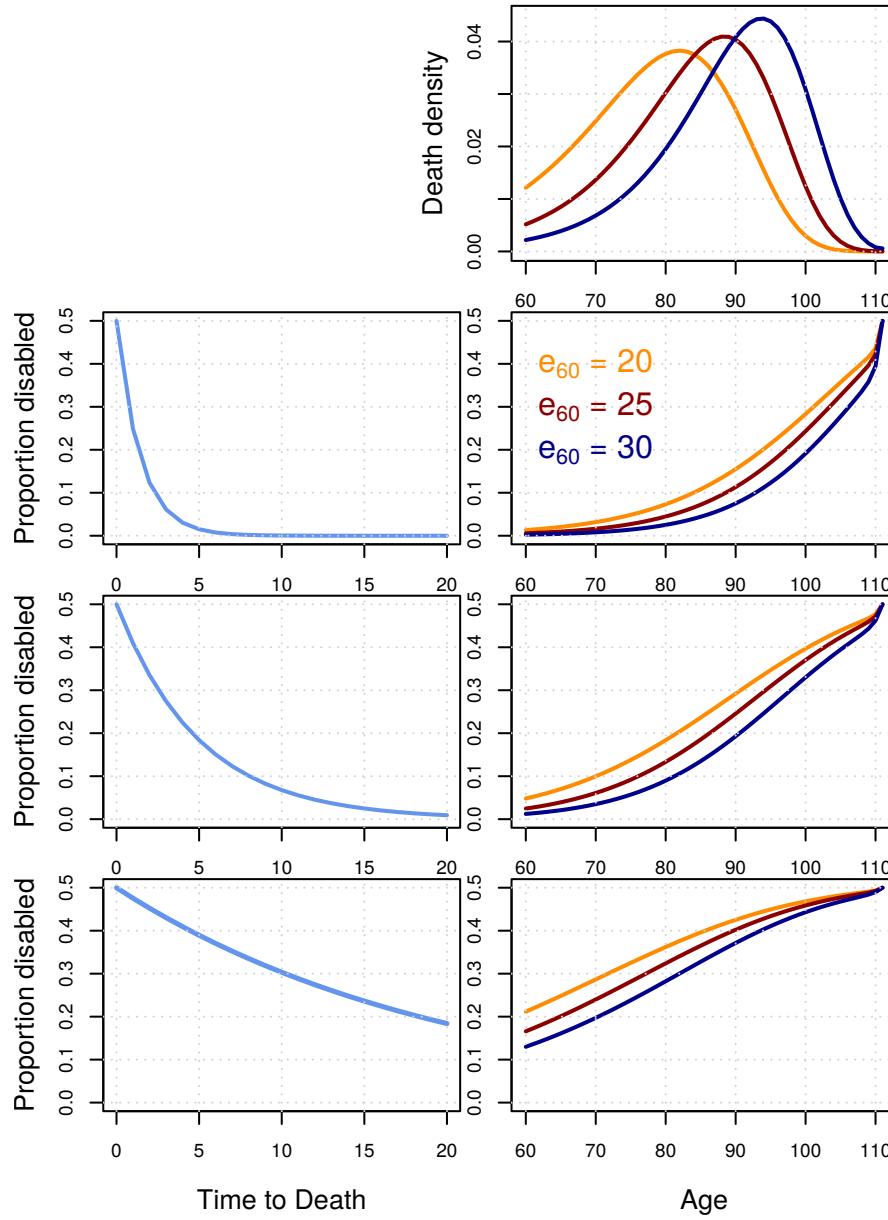
LE: 74.15
DLE: 13.13
VAR: ???



Prevalence scenarios







Thanks to:
Doug Wolf, Jennifer Karaz Montez,
Hal Caswell, Virginia Zarulli, Alyson
van Raalte