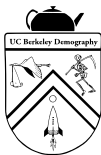# Life lost, lifesaving, and causes of death —— Ghost demography ——

Tim Riffe[1] & Aïda Solé Auró[2]

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University of California, Berkeley
[2] Universitat Pompeu Fabra

Mortality measurement

lifetable: purged of structure

  counts: structure $\times$ intensity

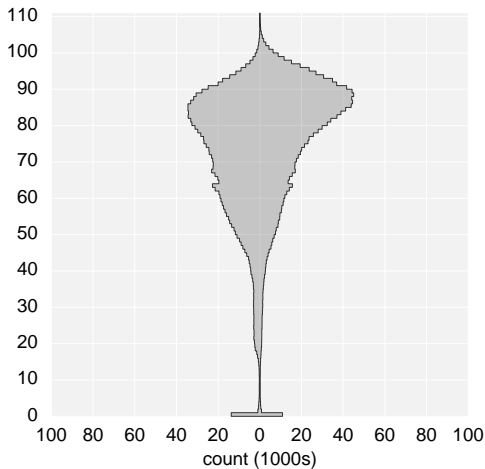 **combo**: Person Years of Life Lost (PYLL), _____, . . .

PYLL

Person years of life lost

$$\text{PYLL} = \int_0^\omega D(a) \cdot e(a) \, \mathrm{d}a \qquad (1)$$

$$\text{PYLL}^c = \int_0^\omega D^c(a) \cdot e(a) \, \mathrm{d}a \qquad (2)$$
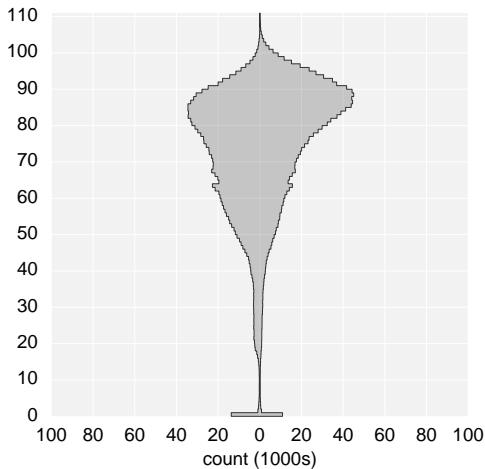
PYLL & friends
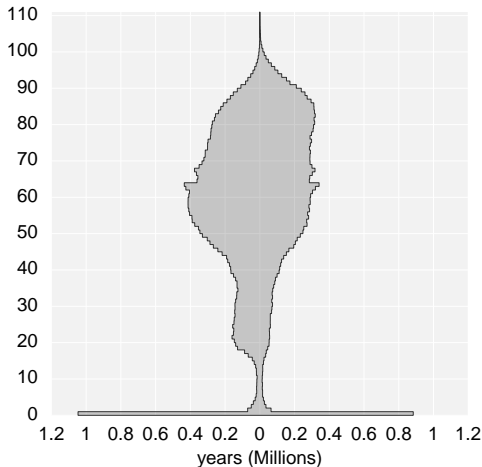
Chrono Age

D(*a*) (USA, 2010)

PYLL & friends

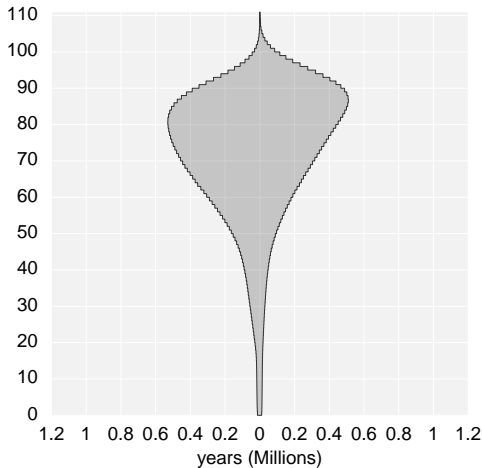Chrono Age

$D(a)$ (USA, 2010)

PYLL & friends
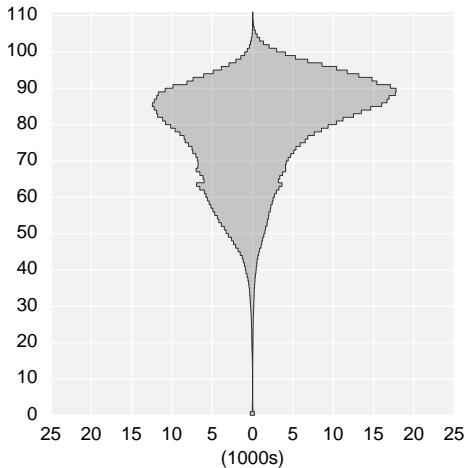
Chrono Age

PYLL(*a*) (USA, 2010)

PYLL & friends

$G(a)$ (USA, 2010)

PYLL & friends, causes of death

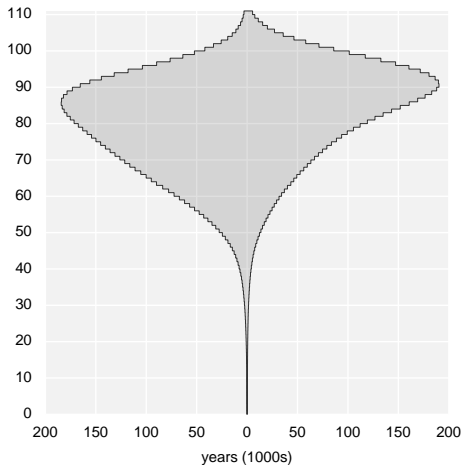*D(a)* Cardio (USA, 2010)

PYLL & friends

G(*a*) Cardio (USA, 2010)
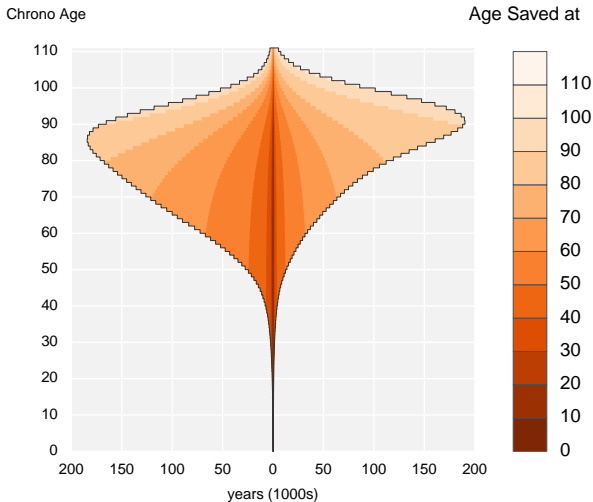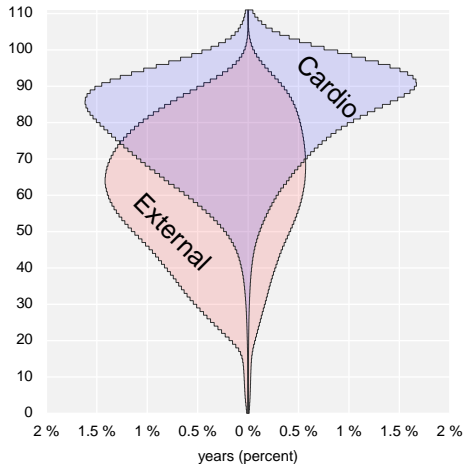
PYLL & friends, decompose

$G(a+y|a)$ Cardio (USA, 2010)
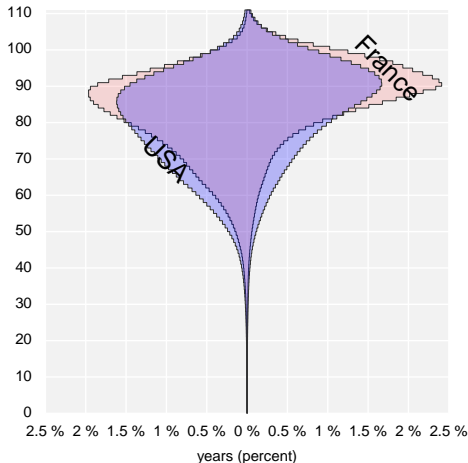
PYLL & friends, compare causes

$G(a)$ Cardio vs External (USA, 2010)

PYLL & friends, compare populations

Chrono Age
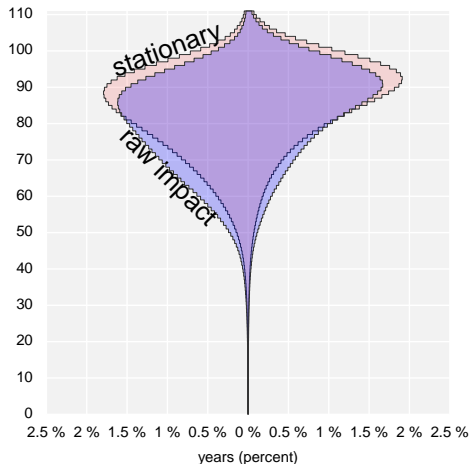
years (percent)

G(a) Cardio (USA vs France, 2010)

PYLL & friends, compare with stationary

Chrono Age

years (percent)

G(a) Cardio (Raw impact versus stationary, USA, 2010)

PYLL & friends, summaries

$\bar{A}$ mean chrono age of G

$\bar{Y}$ mean thanatological age of G

PYLL & friends, rates
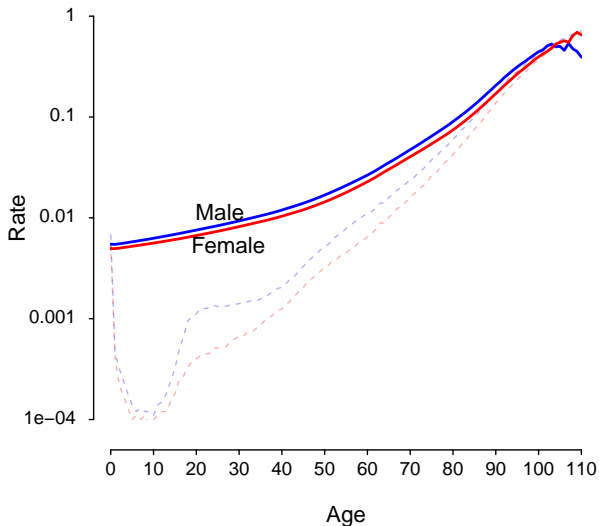
$$\mu^G(a) = \frac{G(a)}{P^F(a)} \qquad (3)$$

The lives that **would** have passed through age a divided by the lives that **will** pass through $G(a)$.

PYLL & friends, rates

$G(a)$ (male and female, USA, 2010)

PYLL & friends, new material

Counts, years, rates, impacts

Life lost, lifesaving, and causes of death

Tim Riffe[1] & Aïda Solé Auró[2]

Thank you!

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Aida's email here