





MAX PLANCK INSTITUTE
FOR DEMOGRAPHIC
RESEARCH

Healthy lives: Delayed onset, improved recovery, or mortality change?

Tim Riffe, Neil Mehta, Daniel Schneider, Mikko Myrskylä

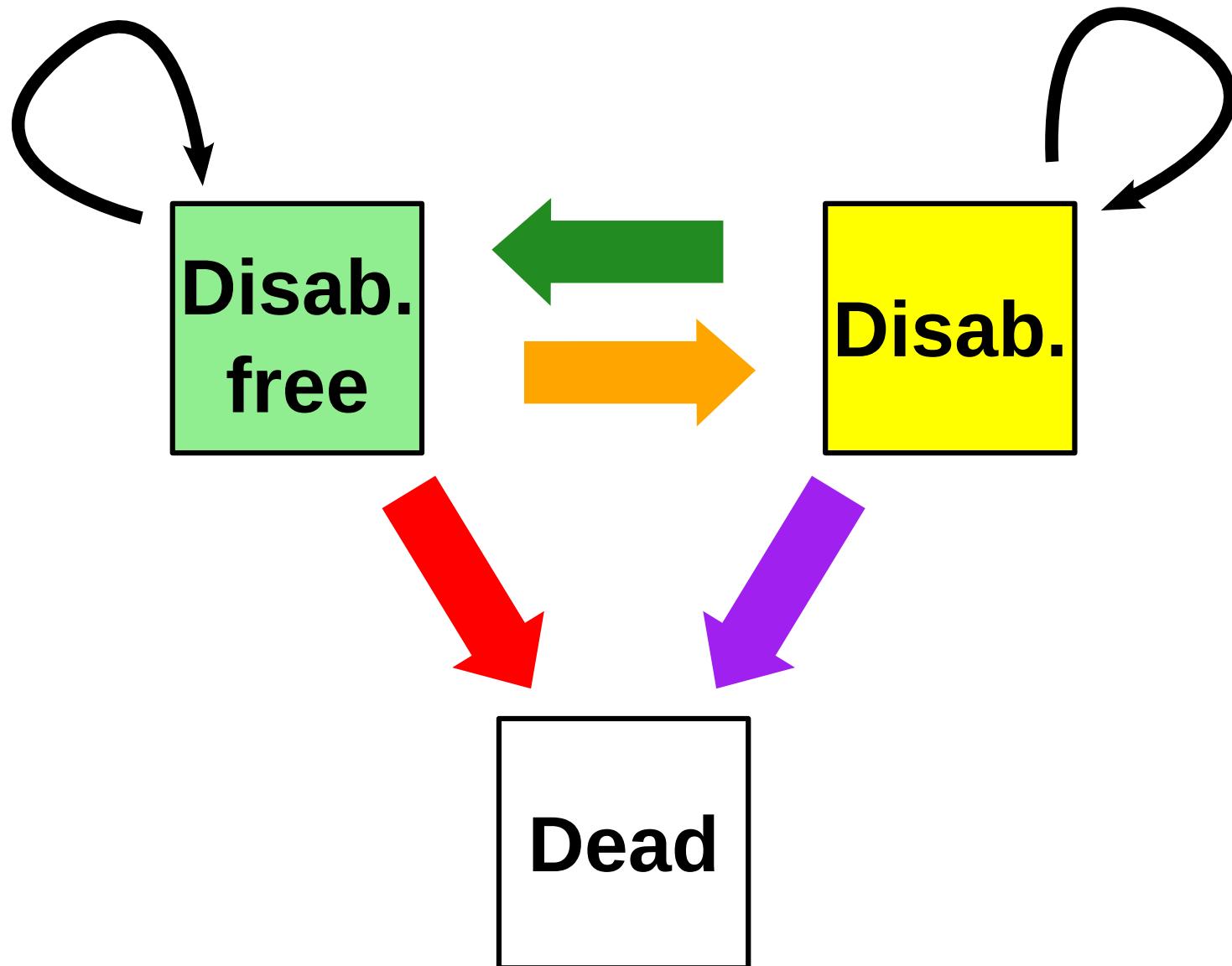
Objective

How much of the change in life expectancy at age 50 $e(50)$ is due to changes in mortality versus changes in disability transitions?

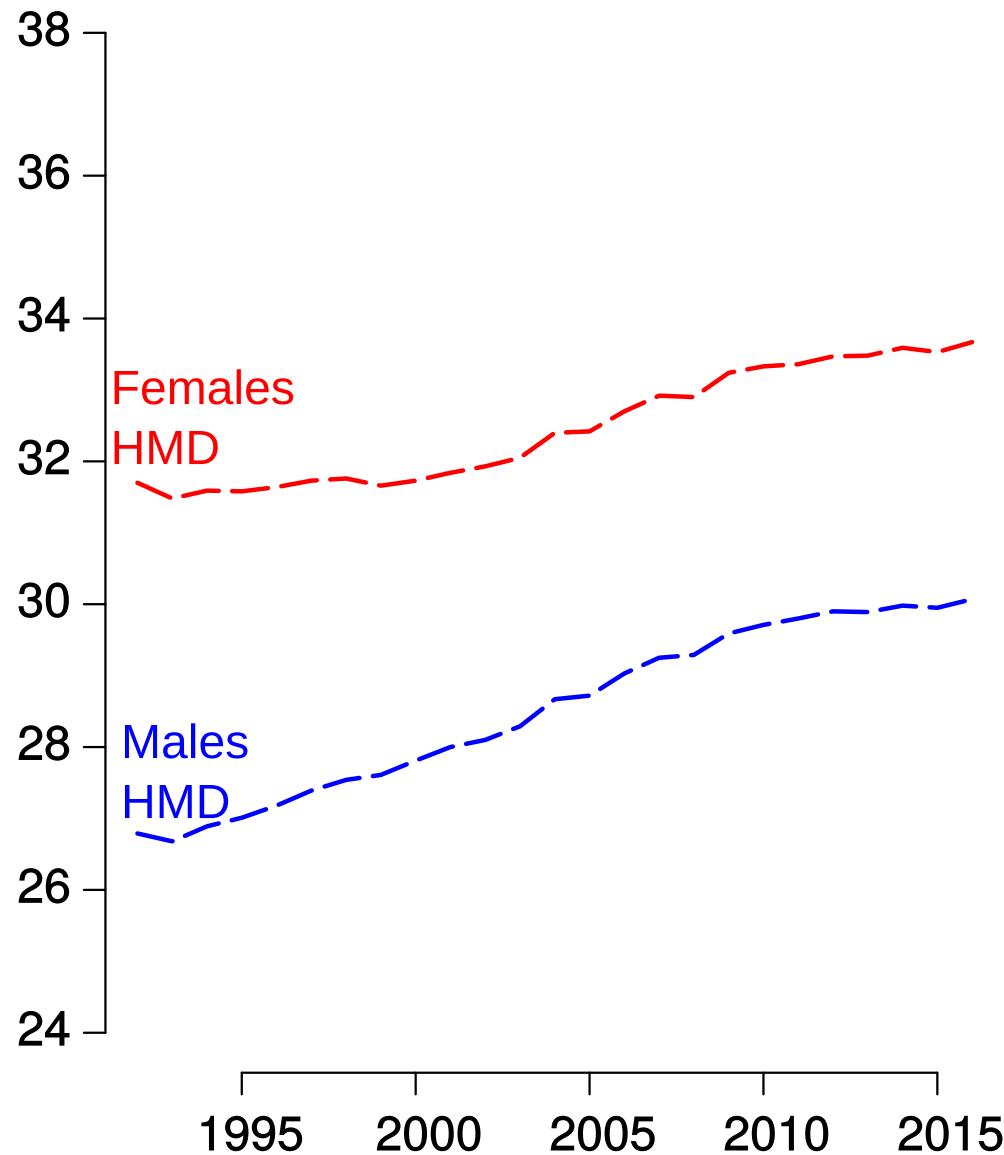
Data & Methods

- HRS RAND version P.
- Transition probabilities: mlogit with age and time splines (3 knots).
- Controls for race/eth (4) and education (3).
- 3-state Markov matrix models centered on years 1996, 2006, and 2014.
- Trend decomposition using Horiuchi et. al. (2007) method.

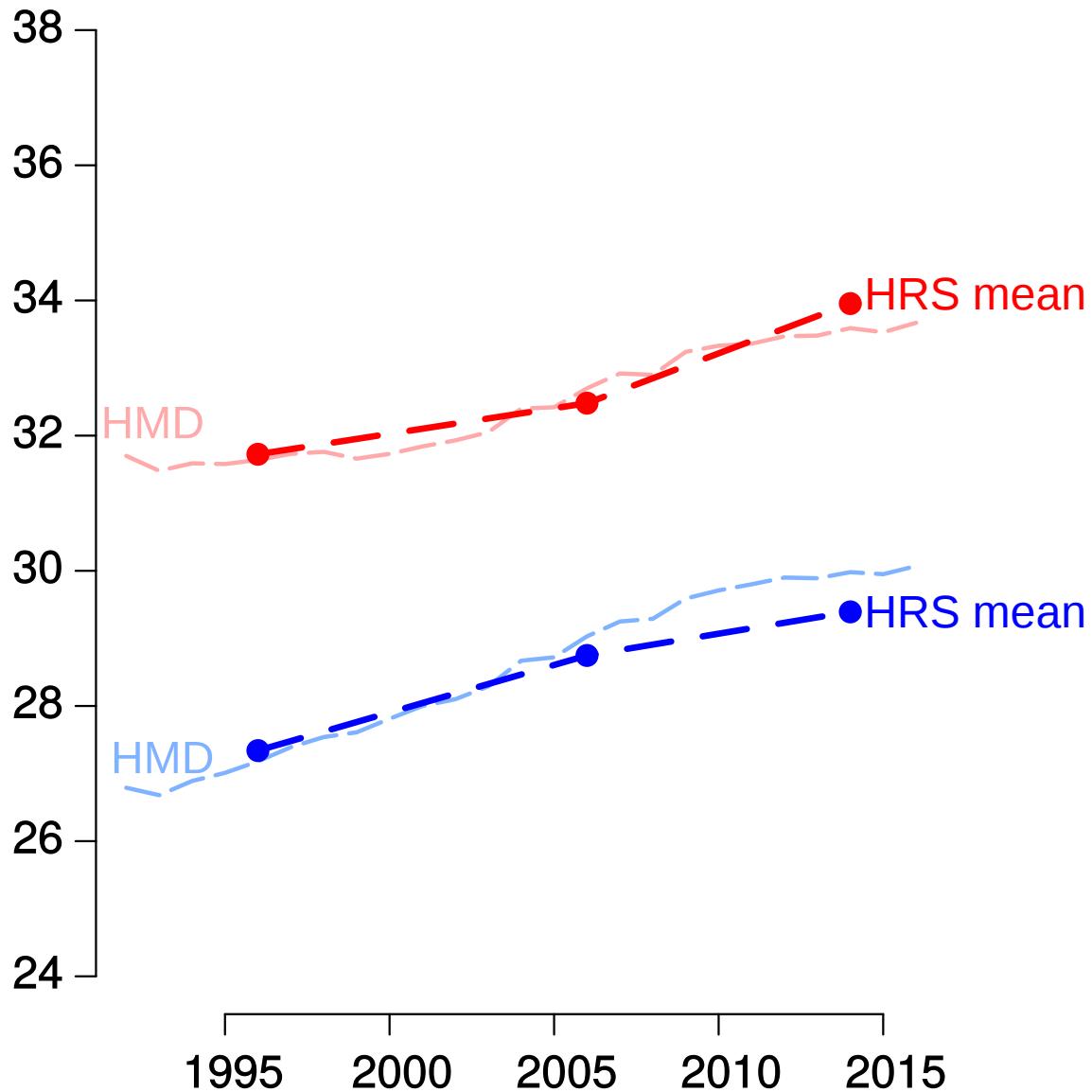
State space



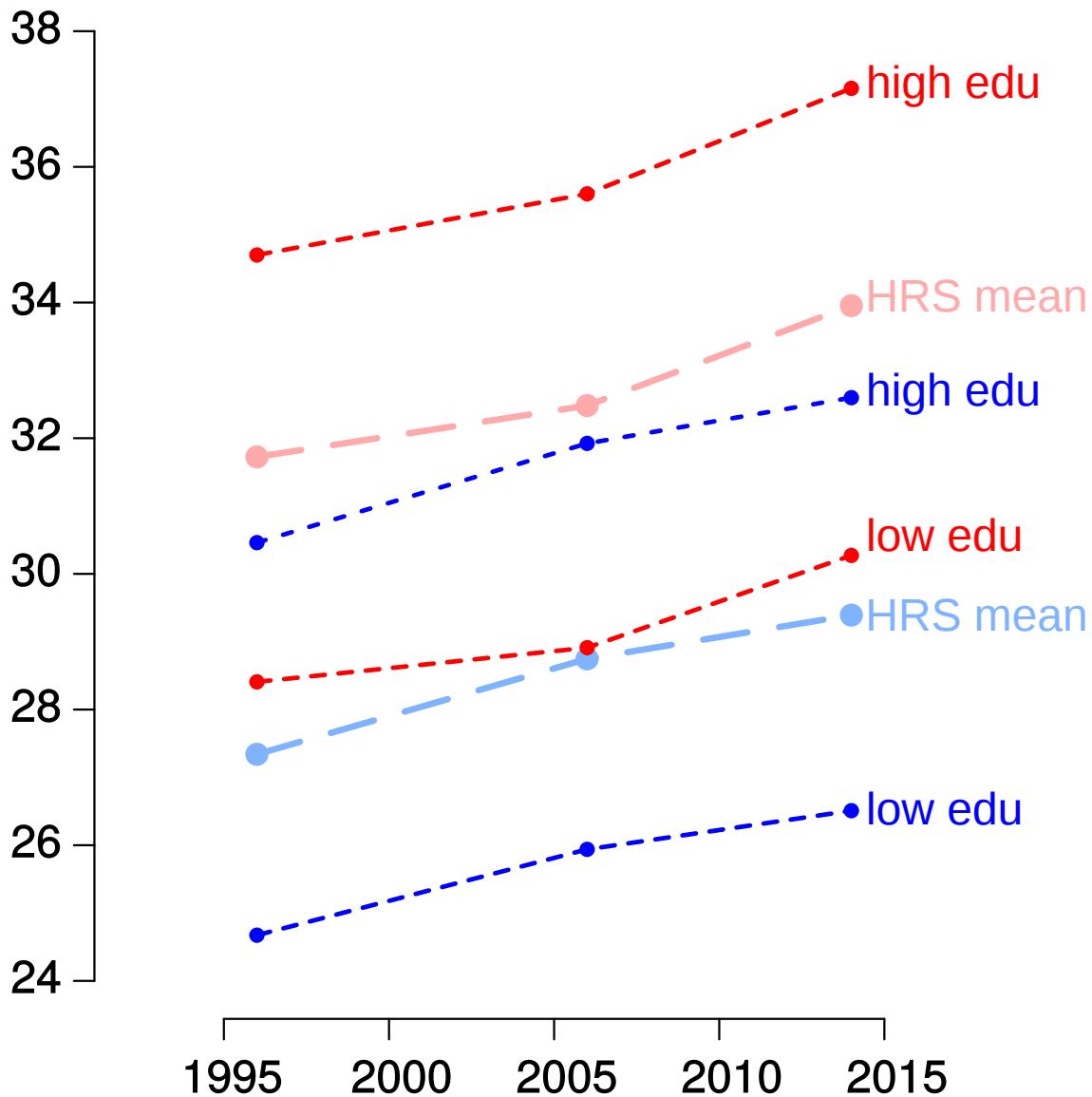
$e(50)$



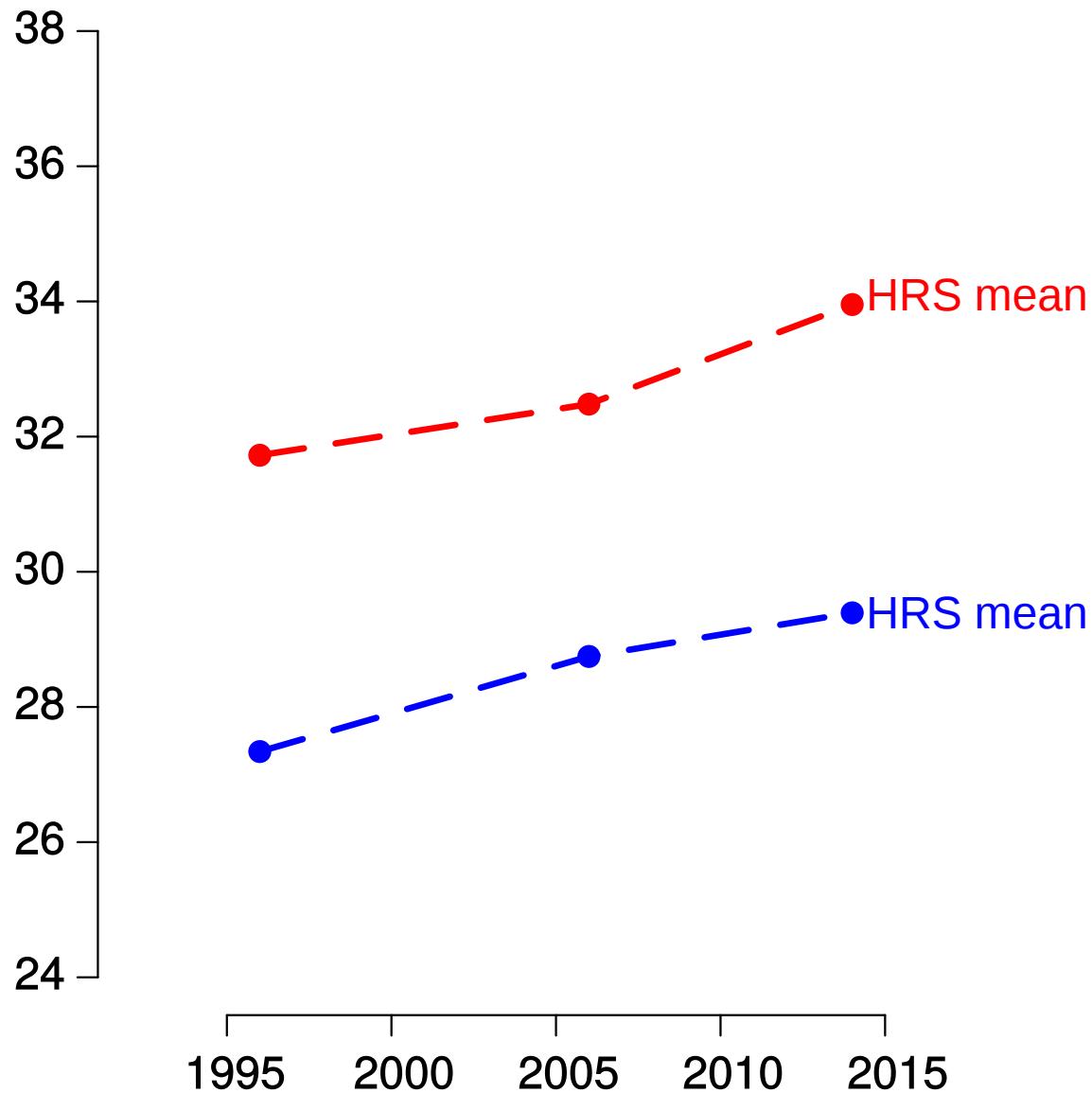
$e(50)$



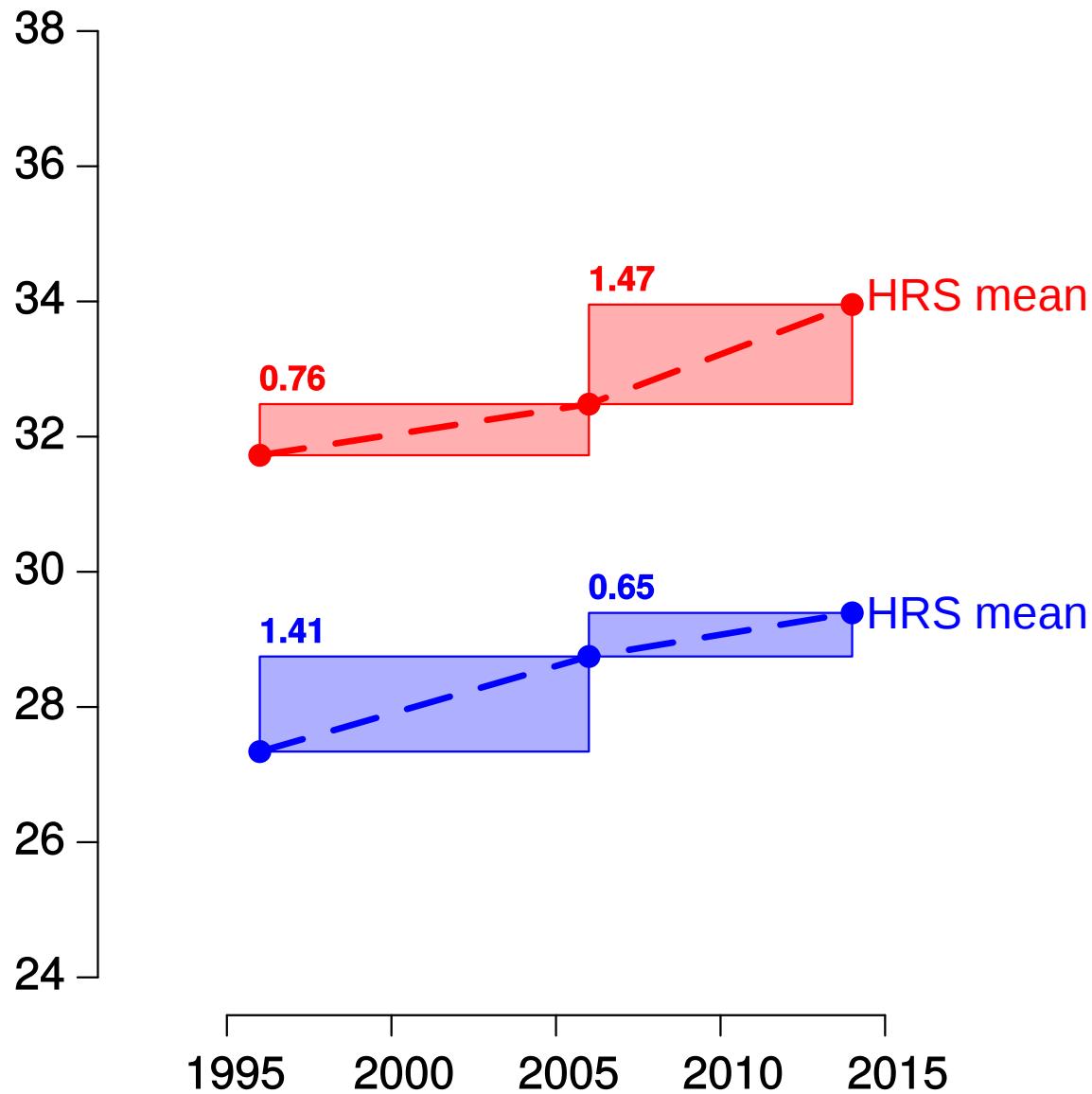
$e(50)$



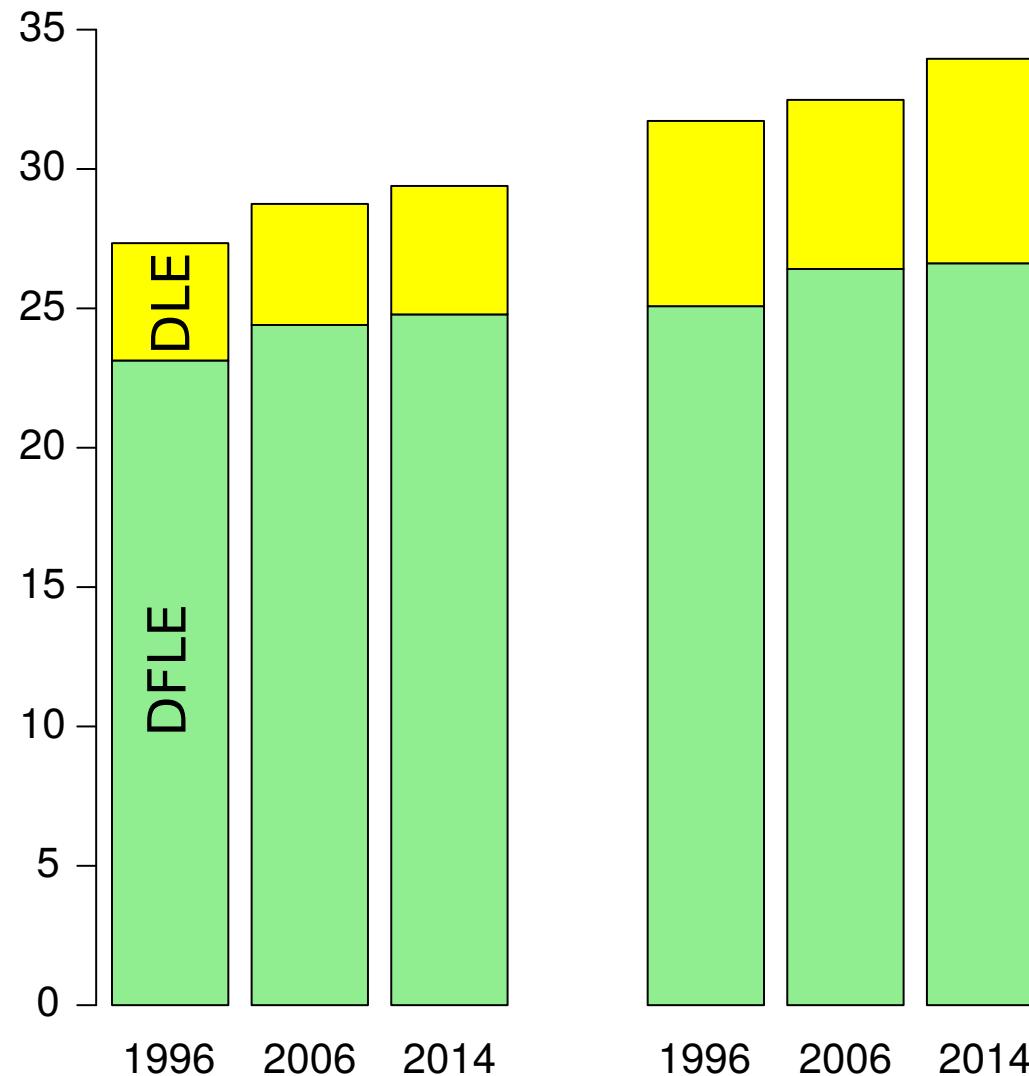
$e(50)$



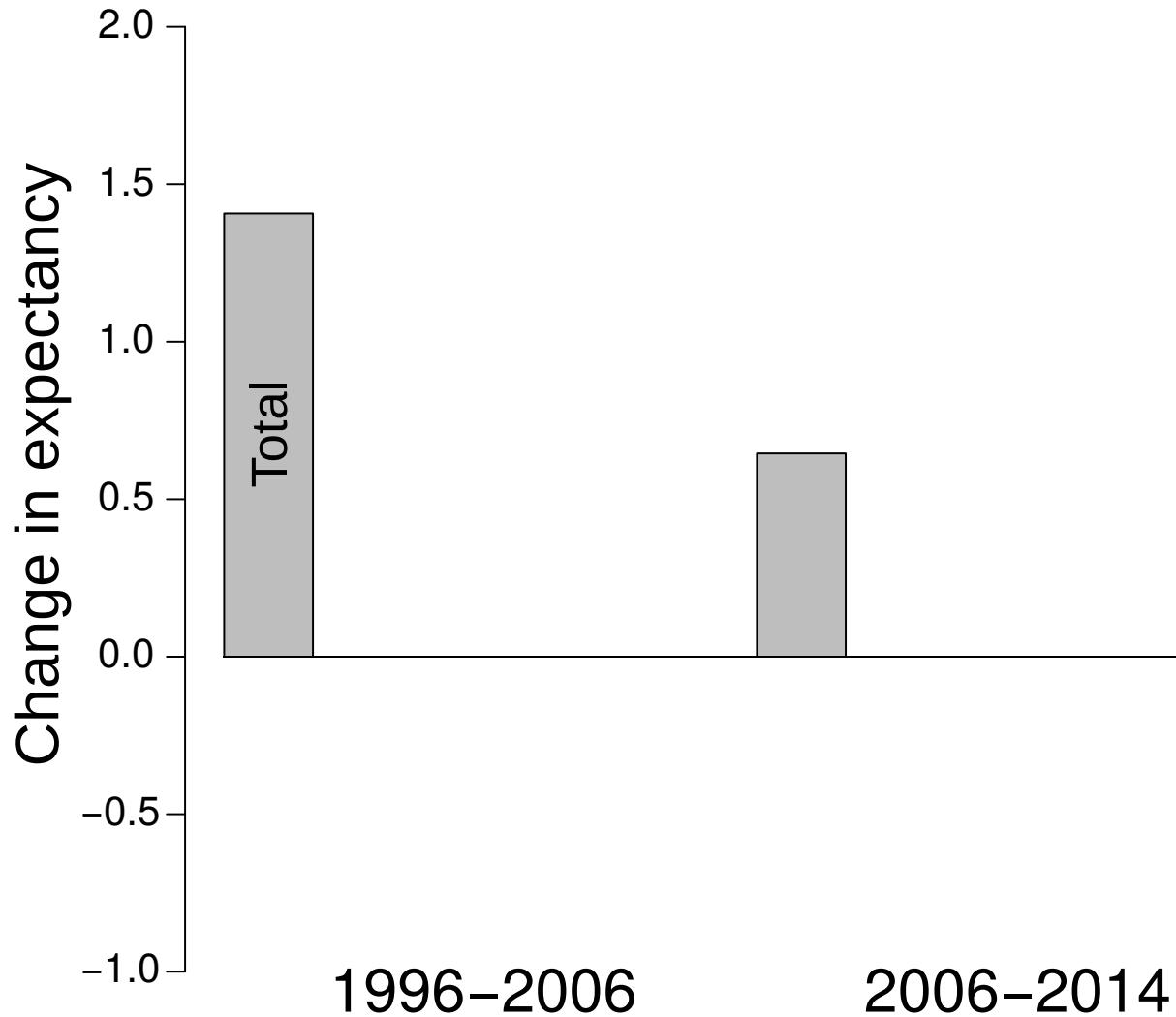
$e(50)$

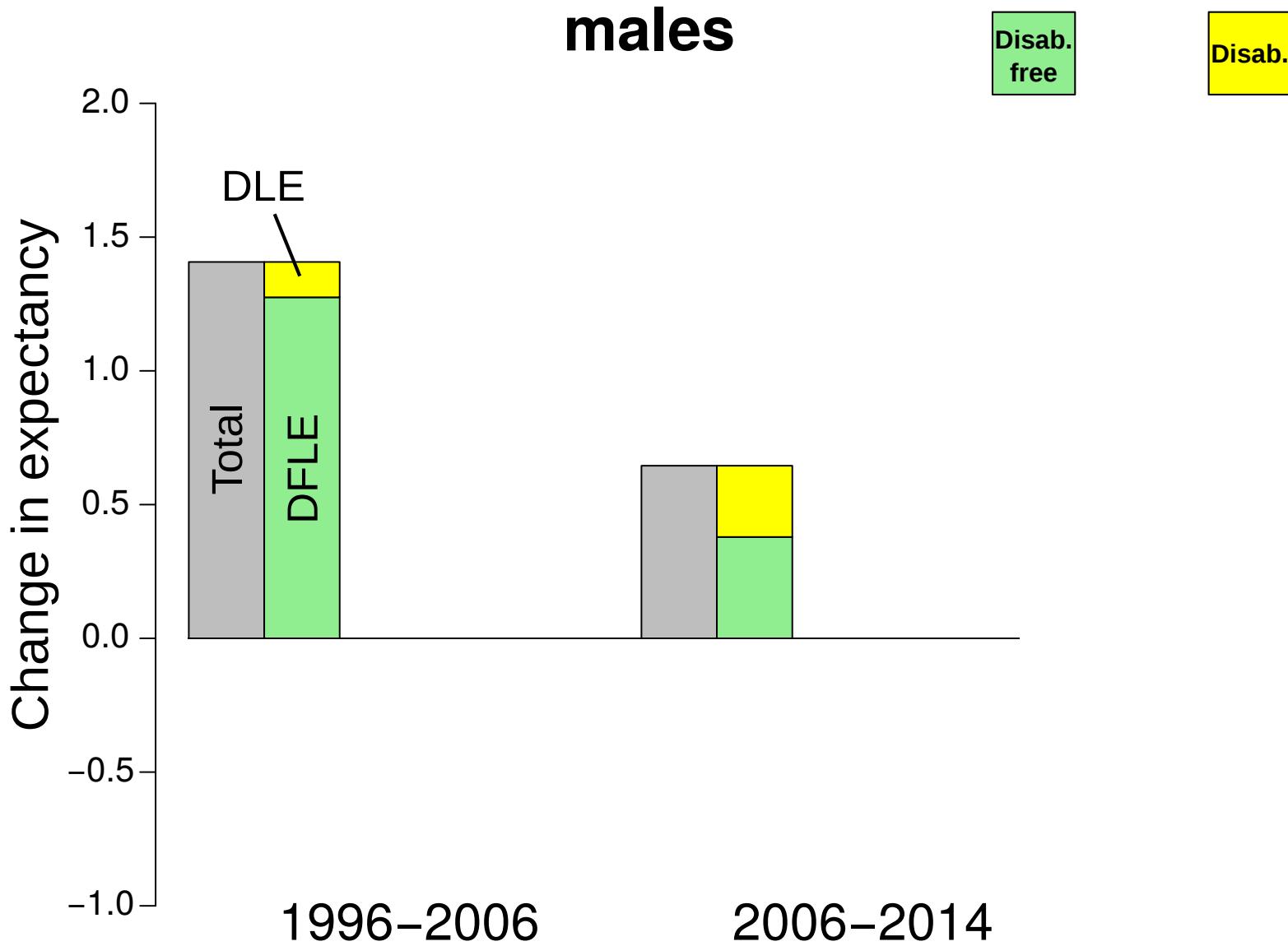


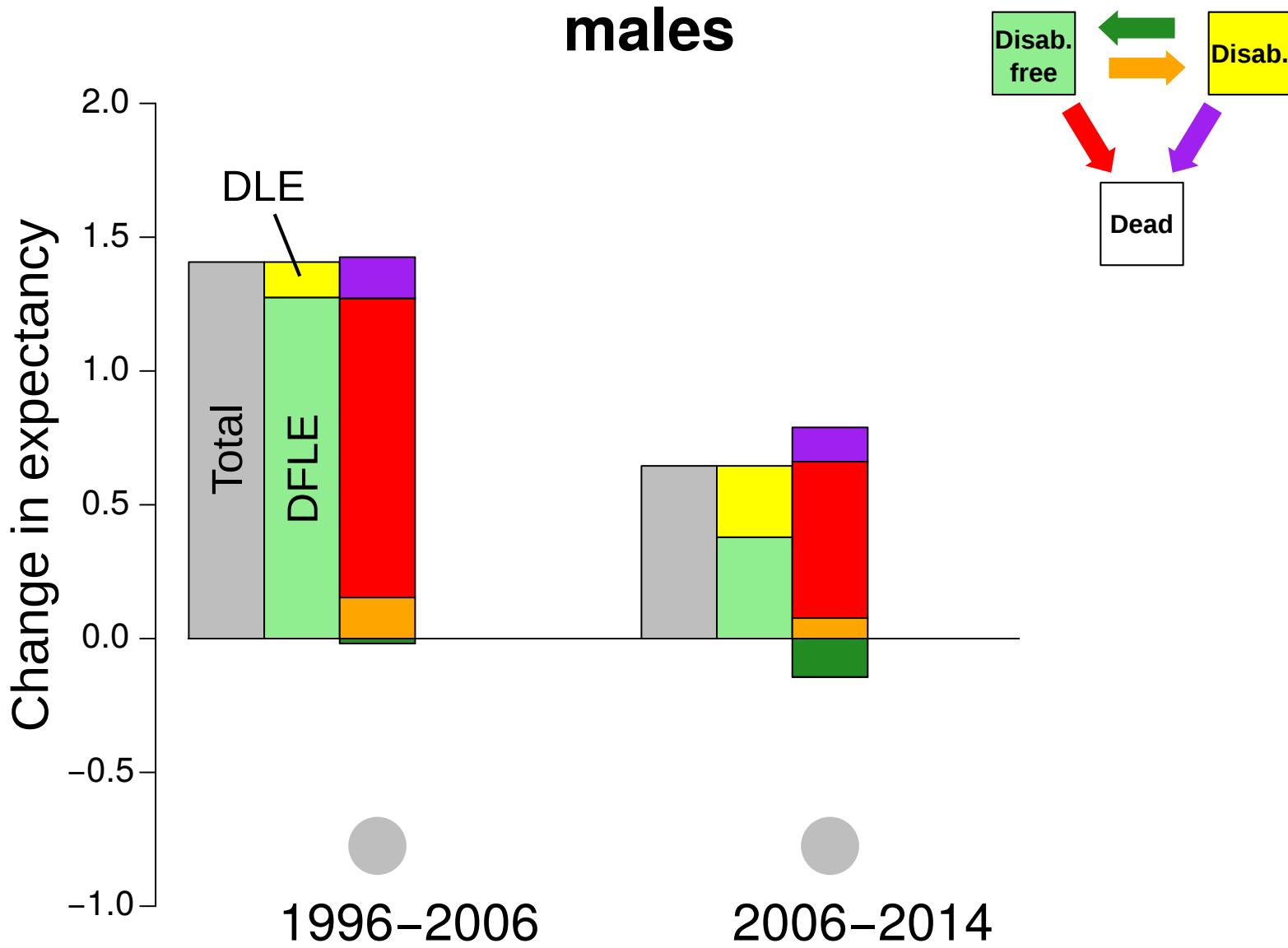
e(50) Males Females

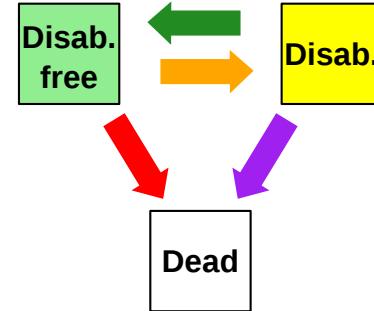
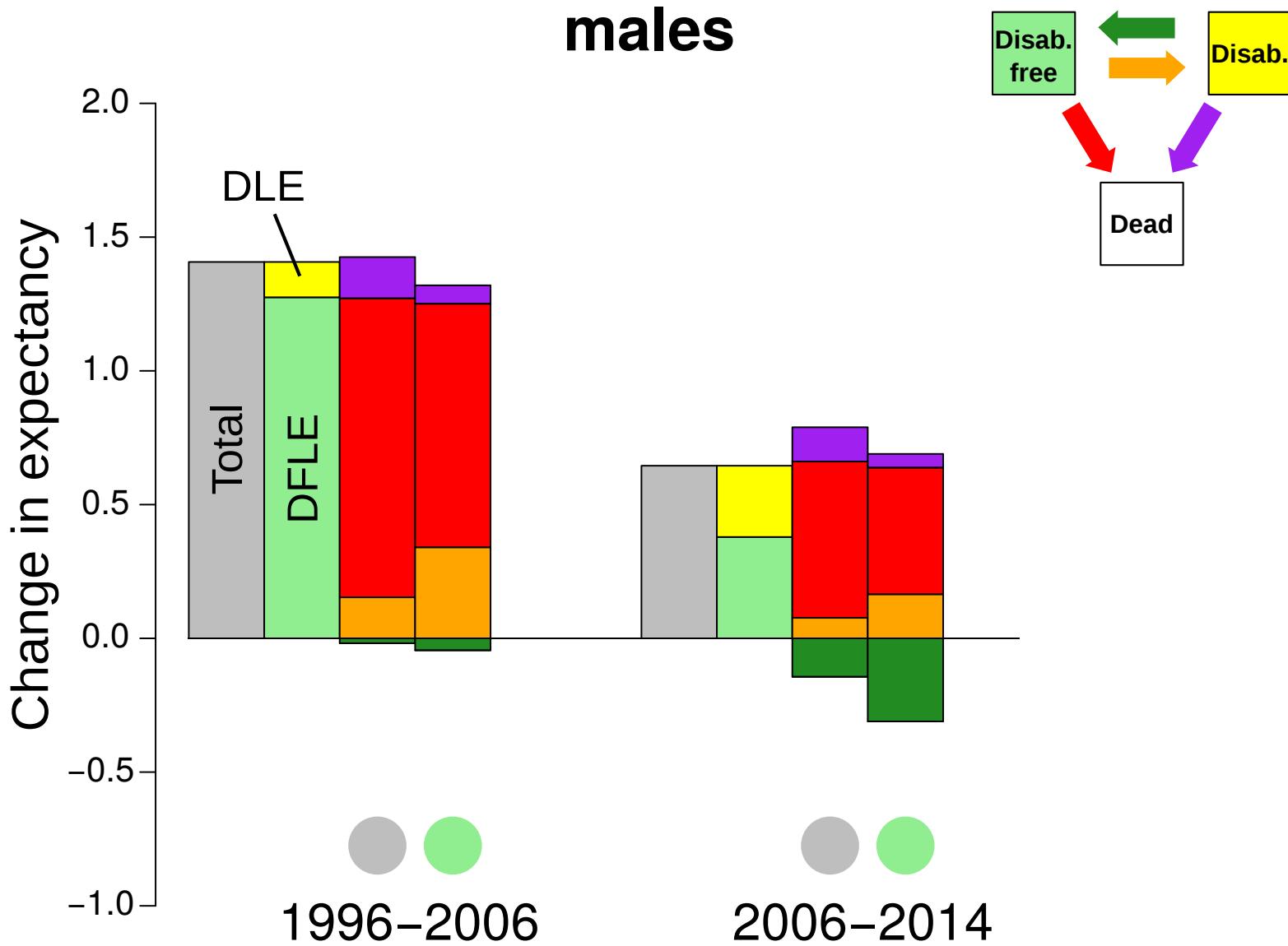


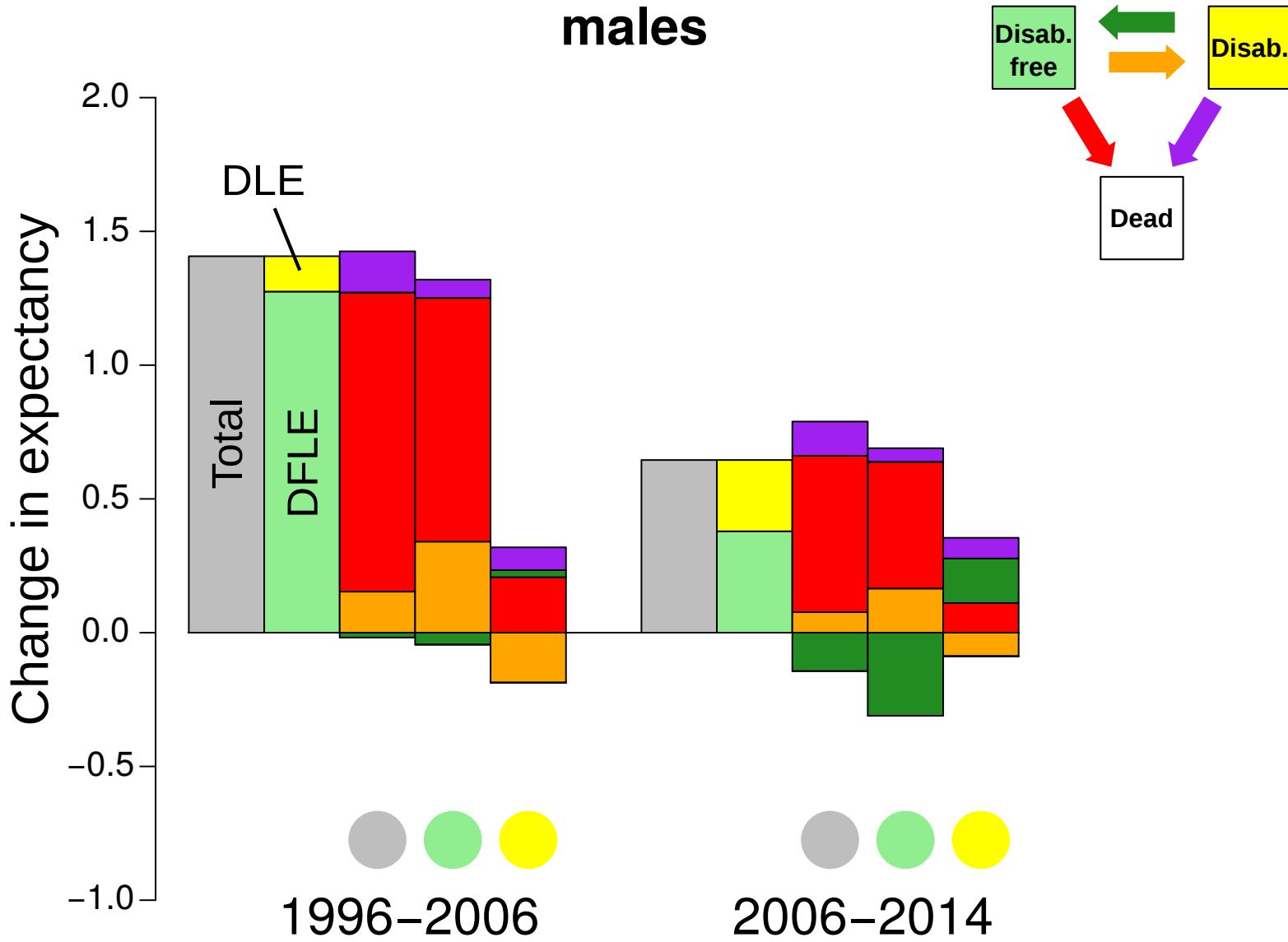
males

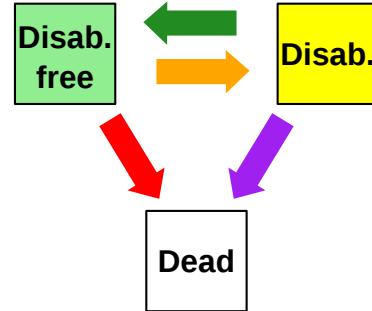
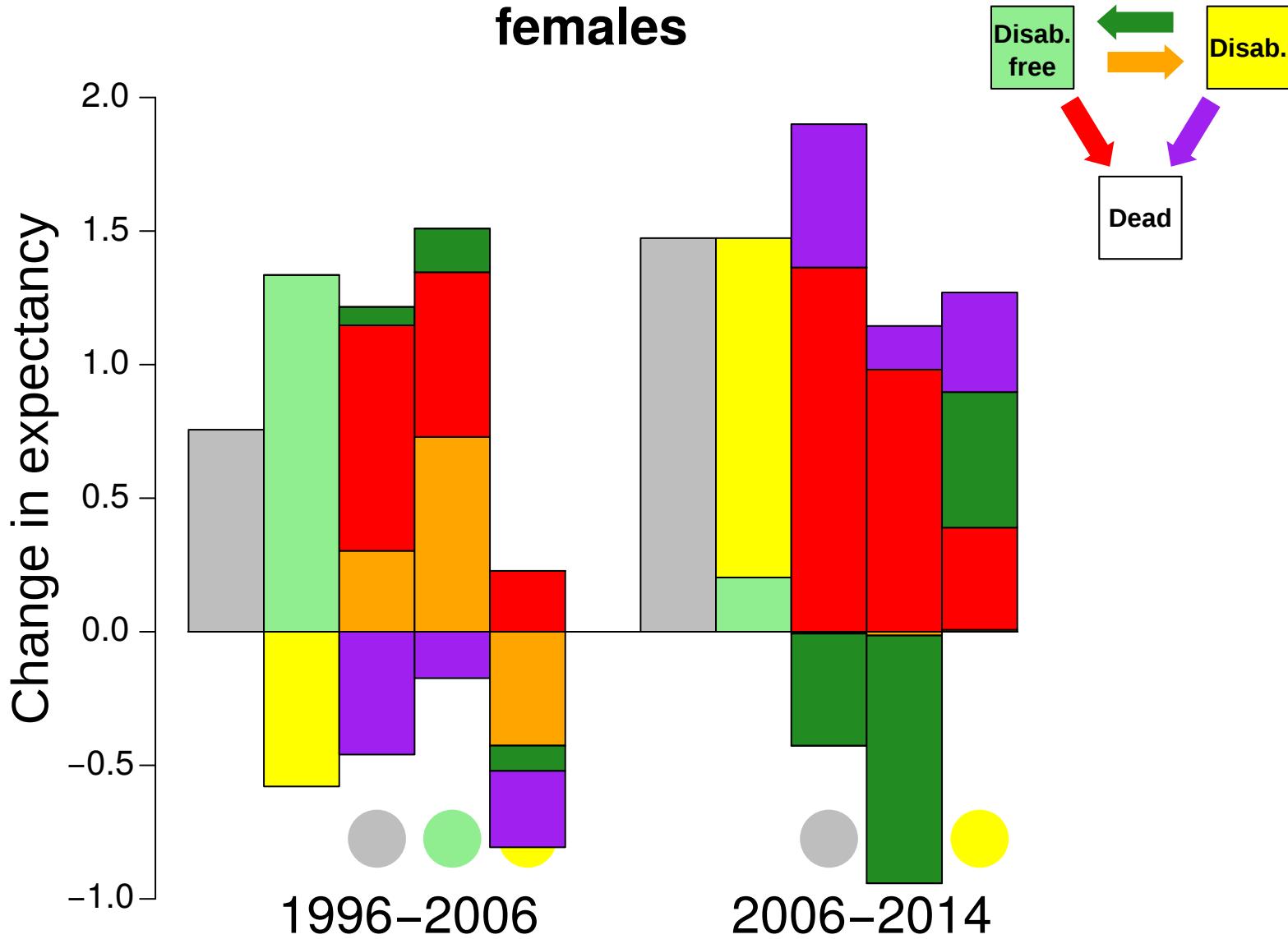












Summary males:

- most LE ↑ due to **DFLE** ↑.
- mortality improvement 1996-2014 added 1.5 years to DFLE.
- changes in transitions between disability and disability free largely **offset** one another.
- DF mortality change always a **positive driver**.

Summary males:

- most LE ↑ due to **DFLE** ↑.
- **mortality improvement** 1996-2014 added 1.5 years to DFLE.
- changes in transitions between disability and disability free largely **offset** one another.
- DF **mortality change** always a **positive driver**.

Summary males:

- most LE ↑ due to **DFLE** ↑.
- **mortality improvement** 1996-2014 added 1.5 years to DFLE.
- changes in transitions between disability and disability free largely **offset** one another.
- DF mortality change always a positive driver.

Summary males:

- most LE ↑ due to **DFLE** ↑.
- **mortality improvement** 1996-2014 added 1.5 years to DFLE.
- changes in transitions between disability and disability free largely **offset** one another.
- DF **mortality change** always a **positive driver**.

Summary females:

- **early LE ↑ due to DFLE ↑, but reduced due to lower DLE.**
- most **early DFLE ↑ due to ↓ transitions to disability and ↑ recovery.**
- **late LE ↑ mostly due to ↑ in DLE.**
- itself mostly due to ↓ mortality and ↓ recovery.
- early ↓ in transitions to disability **offset** by later ↓ in recovery.
- **DF mortality change always a positive driver.**

Summary females:

- **early LE ↑ due to DFLE ↑, but reduced due to lower DLE.**
- most **early DFLE ↑ due to ↓ transitions to disability and ↑ recovery.**
- late LE ↑ mostly due to ↑ in DLE.
- itself mostly due to ↓ mortality and ↓ recovery.
- early ↓ in transitions to disability offset by later ↓ in recovery.
- DF mortality change always a positive driver.

Summary females:

- **early LE ↑ due to DFLE ↑, but reduced due to lower DLE.**
- most **early DFLE ↑ due to ↓ transitions to disability and ↑ recovery.**
- **late LE ↑ mostly due to ↑ in DLE.**
- itself mostly due to ↓ mortality and ↓ recovery.
- early ↓ in transitions to disability **offset by later ↓ in recovery.**
- DF mortality change always a positive driver.

Summary females:

- **early LE ↑ due to DFLE ↑, but reduced due to lower DLE.**
- most **early DFLE ↑ due to ↓ transitions to disability and ↑ recovery.**
- **late LE ↑ mostly due to ↑ in DLE.**
- itself mostly due to ↓ **mortality** and ↓ **recovery**.
- early ↓ in transitions to disability **offset by later ↓ in recovery.**
- DF mortality change always a positive driver.

Summary females:

- **early LE ↑ due to DFLE ↑, but reduced due to lower DLE.**
- most **early DFLE ↑ due to ↓ transitions to disability and ↑ recovery.**
- **late LE ↑ mostly due to ↑ in DLE.**
- itself mostly due to ↓ **mortality** and ↓ **recovery**.
- early ↓ in transitions to disability **offset** by later ↓ in recovery.
- DF mortality change always a positive driver.

Summary females:

- **early LE ↑ due to DFLE ↑, but reduced due to lower DLE.**
- most **early DFLE ↑ due to ↓ transitions to disability and ↑ recovery.**
- **late LE ↑ mostly due to ↑ in DLE.**
- itself mostly due to ↓ mortality and ↓ recovery.
- early ↓ in transitions to disability **offset** by later ↓ in recovery.
- **DF mortality change always a positive driver.**

- Still some kinks with transition probability estimation.
- Horiuchi decomposition works well with multistate models, other virtues.
- So far only time decomp, other comparisons to come.
- Mortality change major driver over time, but all transitions important.

Thanks!

riffe@demogr.mpg.de

- Still some kinks with transition probability estimation.
- Horiuchi decomposition works well with multistate models, other virtues.
- So far only time decomp, other comparisons to come.
- Mortality change major driver over time, but all transitions important.

Thanks!

riffe@demogr.mpg.de

- Still some kinks with transition probability estimation.
- Horiuchi decomposition works well with multistate models, other virtues.
- So far only time decomp, other comparisons to come.
- Mortality change major driver over time, but all transitions important.

Thanks!

riffe@demogr.mpg.de

- Still some kinks with transition probability estimation.
- Horiuchi decomposition works well with multistate models, other virtues.
- So far only time decomp, other comparisons to come.
- Mortality change major driver over time, but all transitions important.

Thanks!

riffe@demogr.mpg.de

- Still some kinks with transition probability estimation.
- Horiuchi decomposition works well with multistate models, other virtues.
- So far only time decomp, other comparisons to come.
- Mortality change major driver over time, but all transitions important.

Thanks!

riffe@demogr.mpg.de

- Still some kinks with transition probability estimation.
- Horiuchi decomposition works well with multistate models, other virtues.
- So far only time decomp, other comparisons to come.
- Mortality change major driver over time, but all transitions important.

Thanks!

riffe@demogr.mpg.de