

# Past and Future Trends in Health and Dependency in England

**Carol Jagger**

***AXA Professor of Epidemiology of Ageing***

***Newcastle University***

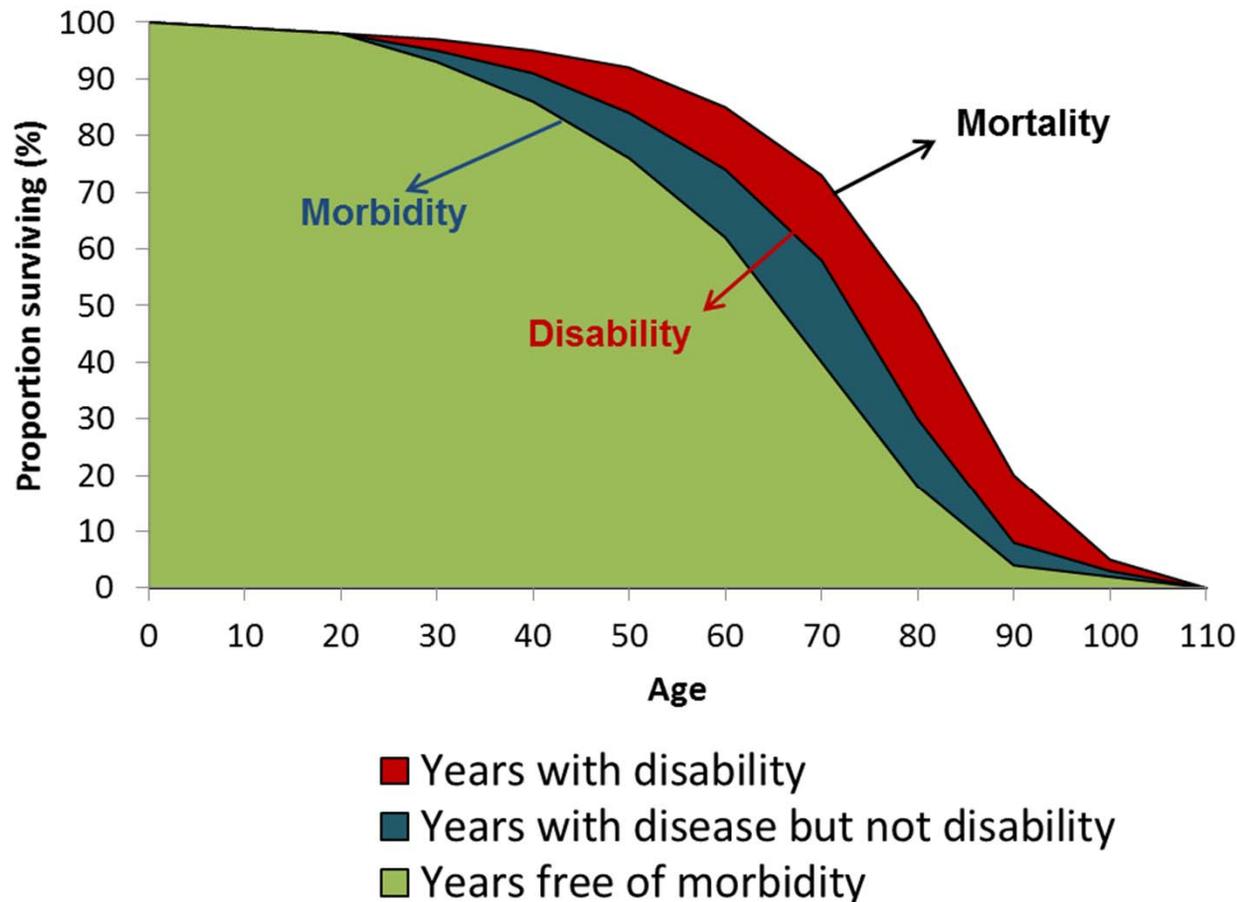
***([carol.jagger@ncl.ac.uk](mailto:carol.jagger@ncl.ac.uk))***

# Target messages



- **Conclusions on compression/expansion depends on health measure**
- Measuring dependency and care needs
- Will there be compression of dependency in the future?

# Healthy ageing



Health expectancy (HE):

- Combines information on health and mortality
- Is independent of age structure and size of population
- Need to look at trends in HE alongside trends in LE
- Can address theories of compression of morbidity/disability

WHO Model of Health Transitions (1984)

# Most recent trends in HE

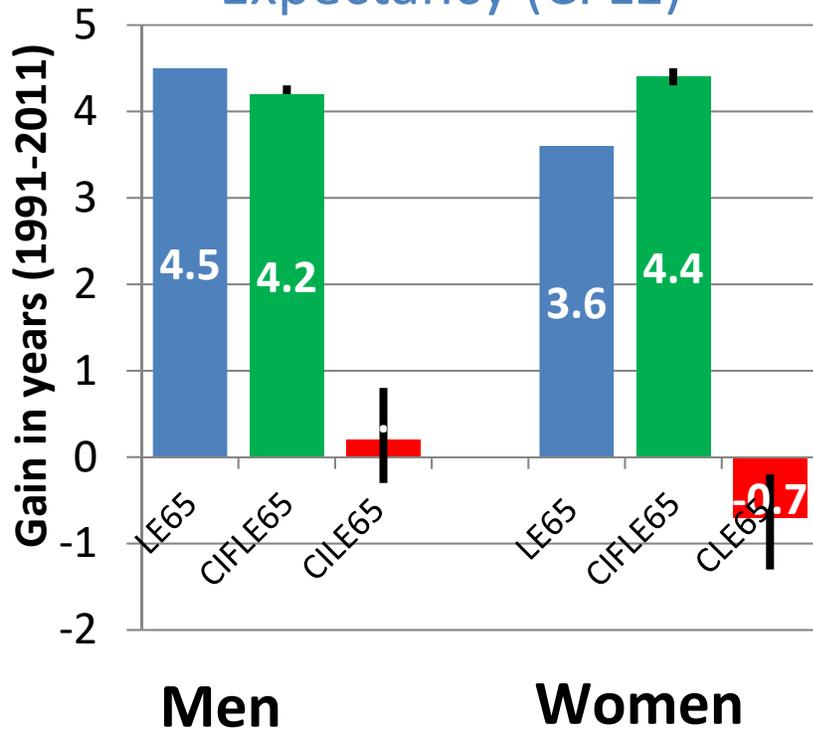
## Cognitive Function and Ageing Studies (CFAS)



- CFAS I (1991) six areas
  - sampling from whole population geographically
- Three taken forward for CFAS II (2011)
  - Cambridgeshire (Ely and surrounding area)
  - Newcastle
  - Nottingham
- Design:
  - Equal numbers aged 65-74 and 75+ years
  - Complete population (including care homes)
- HE measures:
  - Cognitive impairment-free LE (CIFLE)
  - Healthy LE (HLE) based on self-rated health
  - Disability-free LE (DFLE) based on (I)ADLs
  - Dependency-free LE based on interval need

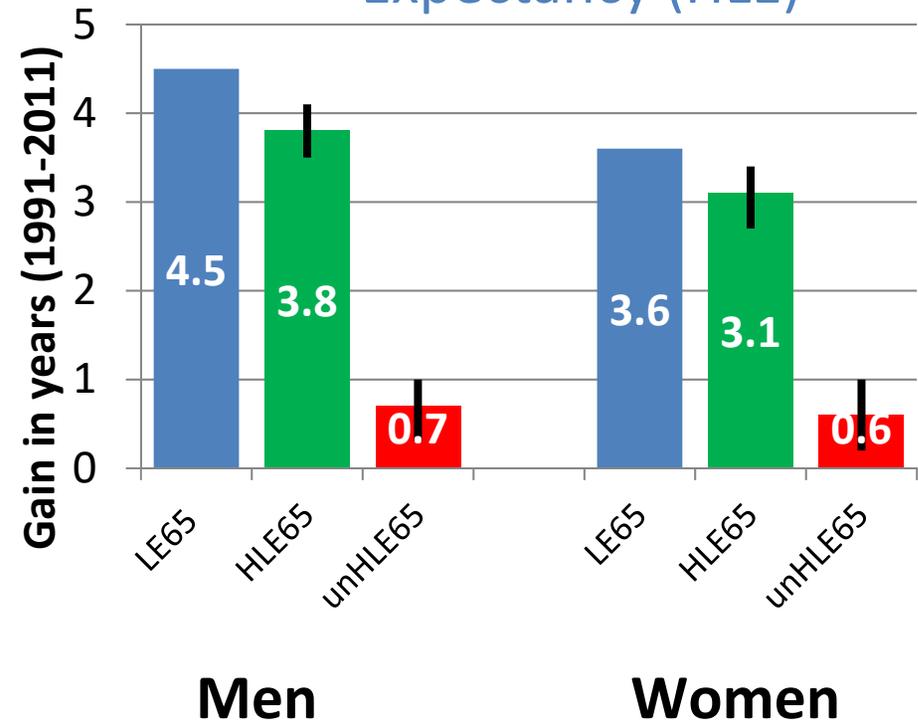
# Change at age 65:1991 to 2011

## Cognitive Impairment Free Life Expectancy (CFLE)



CIFLE ↑ > LE ↑ =  
compression

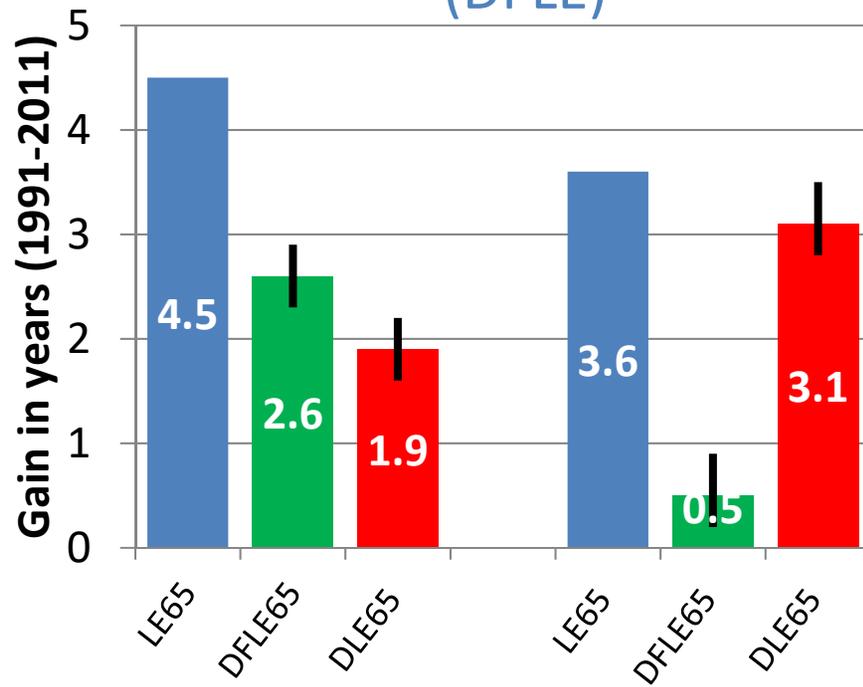
## Healthy Life Expectancy (HLE)



%HLE/LE ↑ =  
relative compression

# Change at age 65:1991 to 2011

Disability Free Life Expectancy (DFLE)

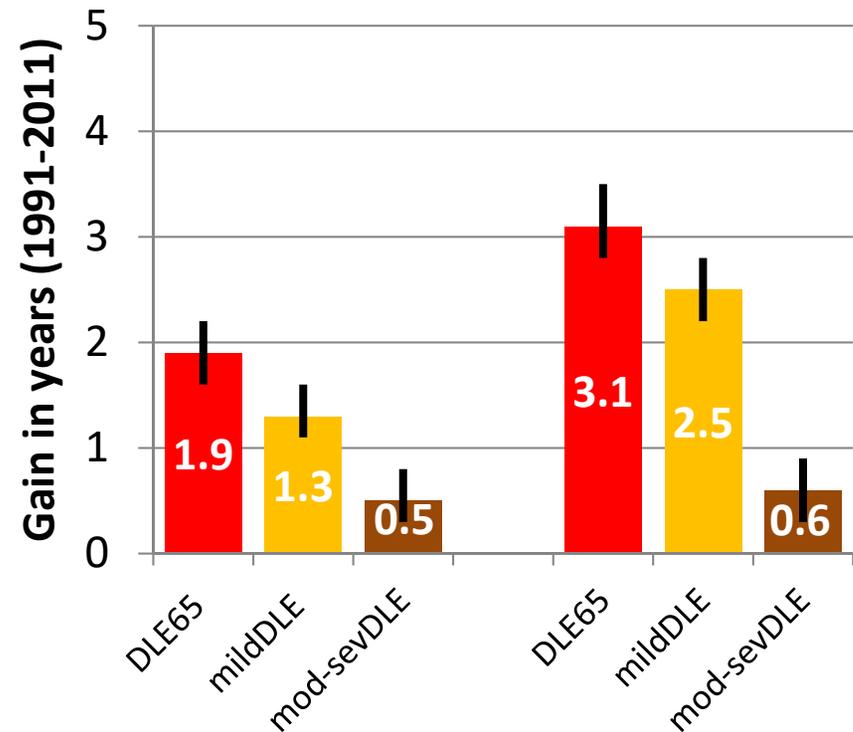


**Men**

**Women**

%DFLE/LE ↓ = expansion

DFLE by severity



**Men**

**Women**

mildDLE ↑ > mod-sevDLE ↑ = dynamic equilibrium?

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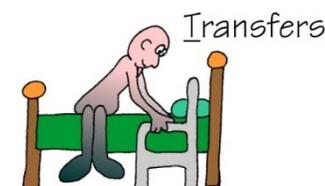
# Measuring dependency/care needs

- Disability does not give real indication of care needs
- Often care needs ascertained from administrative data – demand not need

- Interval of need (Isaacs and Neville, 1975):

- **High (requires 24-hour care)**

- bedbound or chairbound, or unable to get to or use the toilet without help, or need help feeding, or be often incontinent and need help dressing, or have severe cognitive impairment (MMSE < 10)



- **Medium (requires help at regular times daily)**

- need help preparing a meal, or dressing



- **Low (requires help less than daily)**

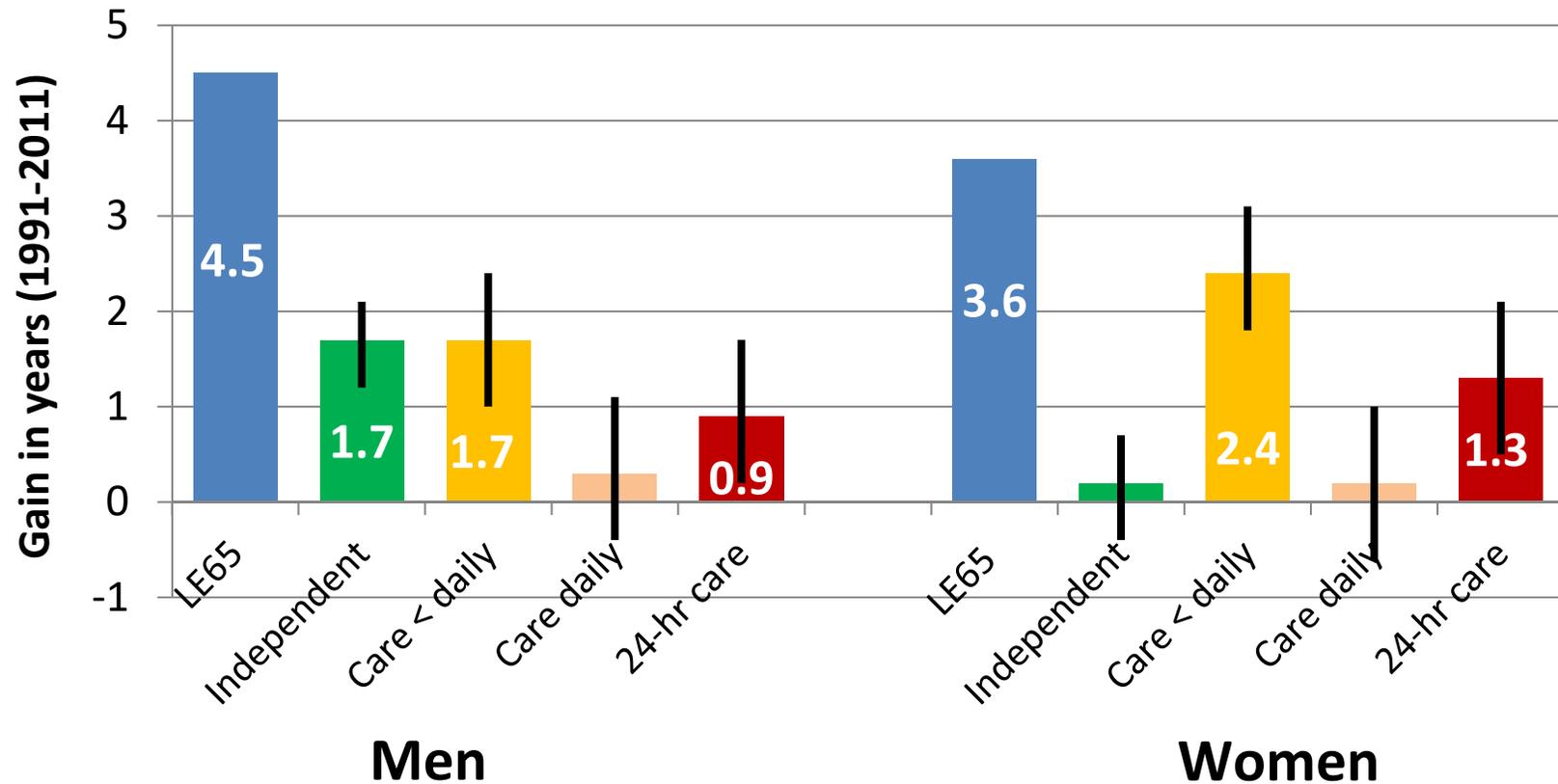
- need help to wash all over or bath, or cut toenails, or shop, or do light or heavy housework



- **Independent**

# Change in HE at age 65:1991 to 2011

## Years with different care needs



# Target messages

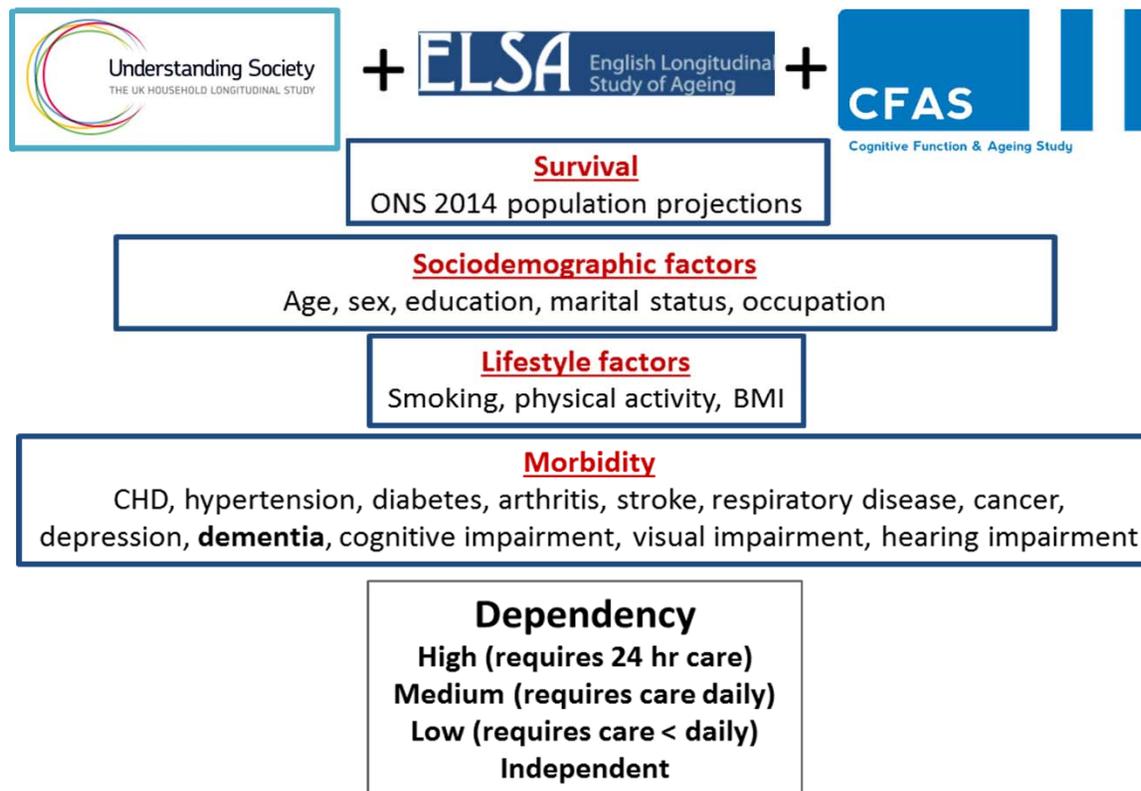


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# Population Ageing & Care Simulation (PACSim) model

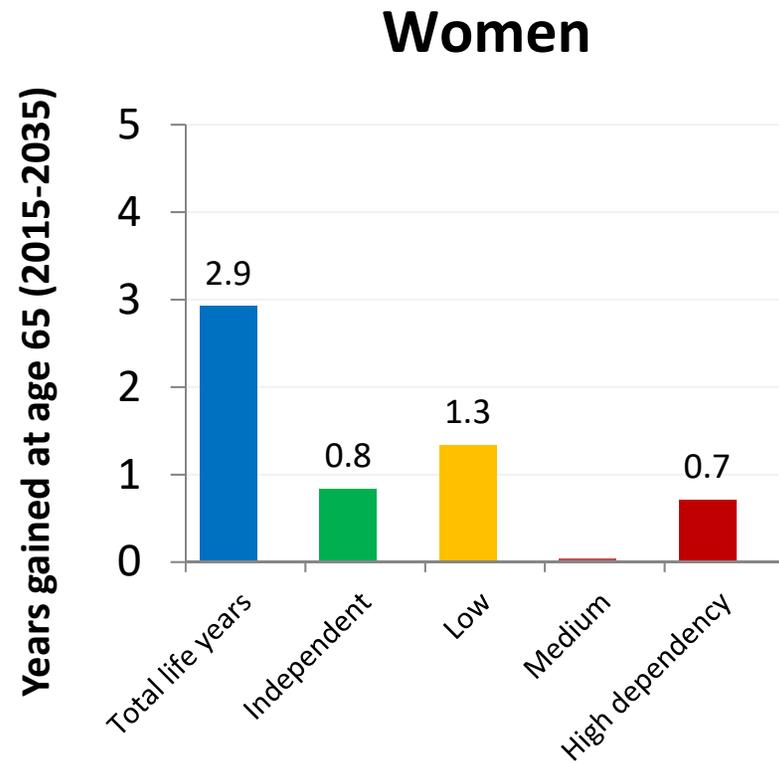
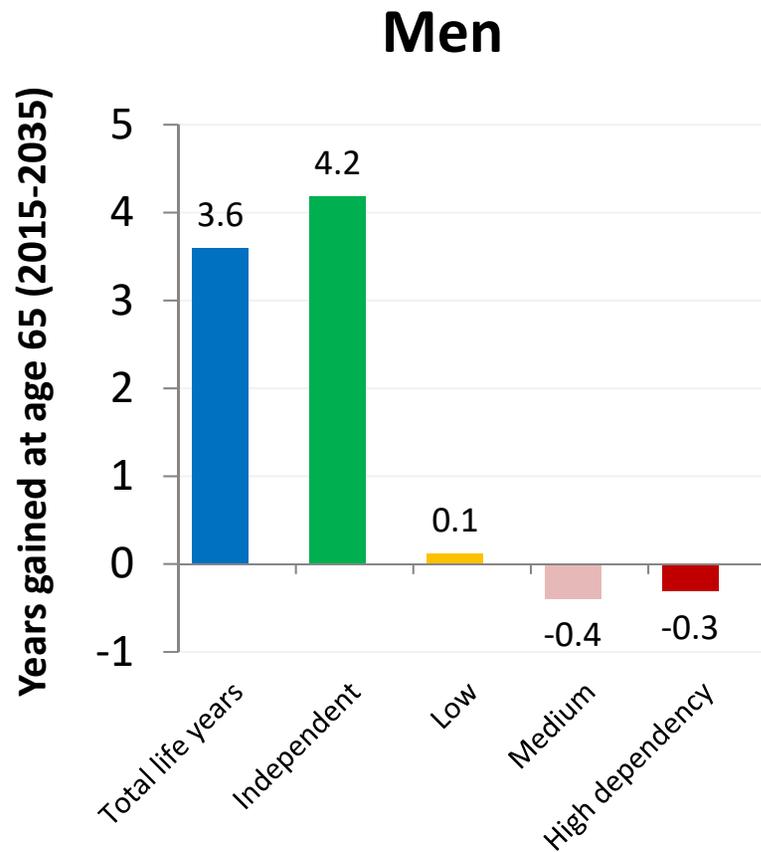
Age 35+ Years



PACSim is a dynamic microsimulation model which simulates future health of set of real individuals (base population) aged 35 years and over based on:

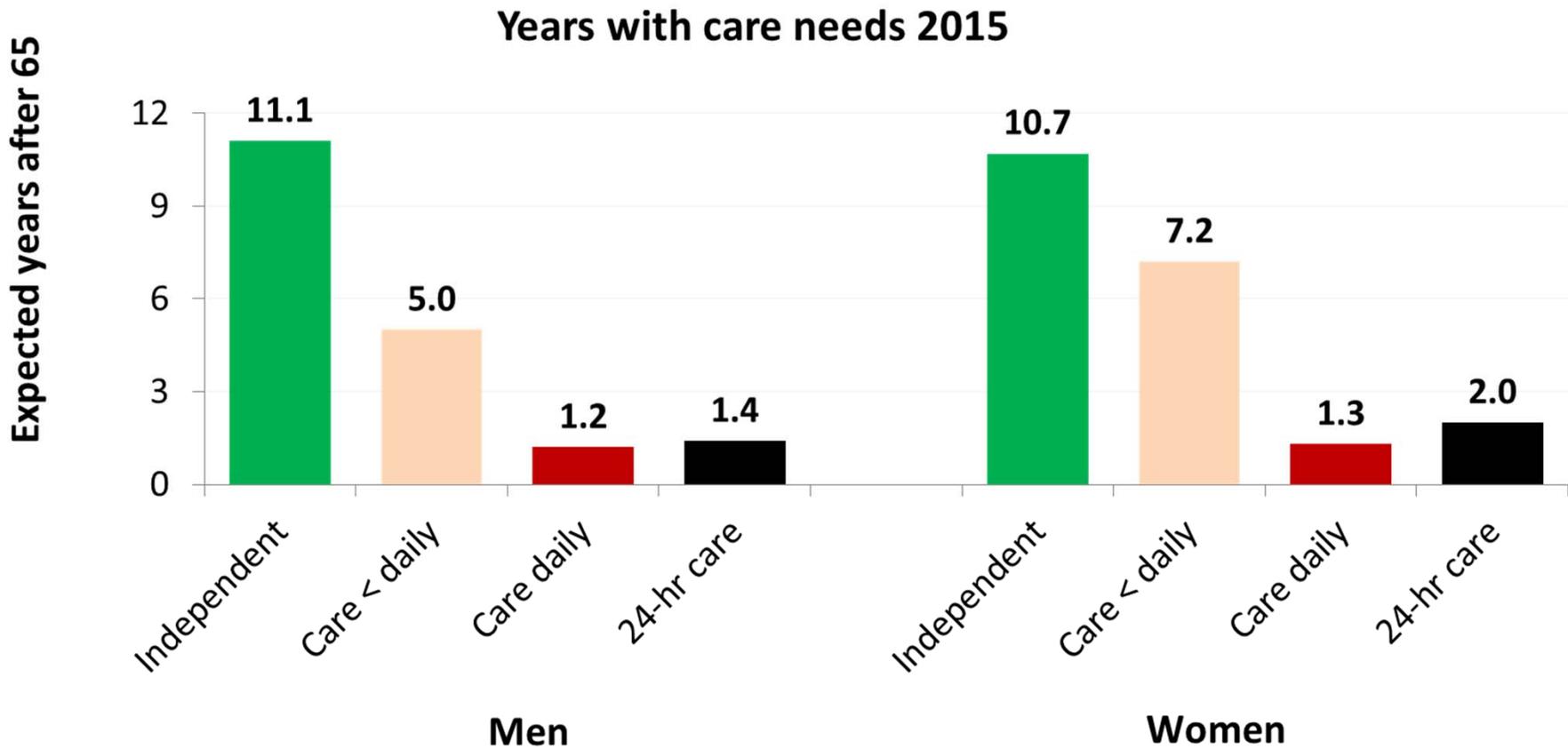
- ❖ their baseline characteristics
- ❖ change from transition models of longitudinal data

# PACSim: future time spent dependent from age 65



Source: Kingston et al Lancet Public Health 2018

# PACSim: time spent dependent from age 65



Source: Kingston et al Lancet Public Health 2018

# Final take home messages

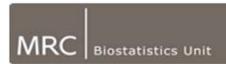


- Conclusions about whether there is compression or expansion or morbidity depends crucially on the underlying measure of health
- In England, increases in life expectancy at older ages do not seem to be accompanied by equivalent gains in years free of disability or dependency
- Using a combined measure of ADLs, IADLs, cognitive function and incontinence and utilising the elapsed time between which help is required produces a more explicit measure of care needs
- Future trends in dependency-free life expectancy suggest compression for men and a continued expansion of low level dependency in women

# Acknowledgements



CFAS studies collaboration



<http://www.modem-dementia.org.uk>

carol.jagger@ncl.ac.uk

## Thank you

