GSA 2020 ANNUAL SCIENTIFIC MEETING
ONLINE

Turning 75: Why Age Matters

November 4-7, 2020

THE GERONTOLOGICAL SOCIETY OF AMERICA®

Trends in Health Expectancies by Late-Life Disadvantage: the Cognitive Function and Ageing Studies

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Presented by: Holly Q Bennett
Date: 6 November 2020

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INTRODUCTION

Health Expectancies

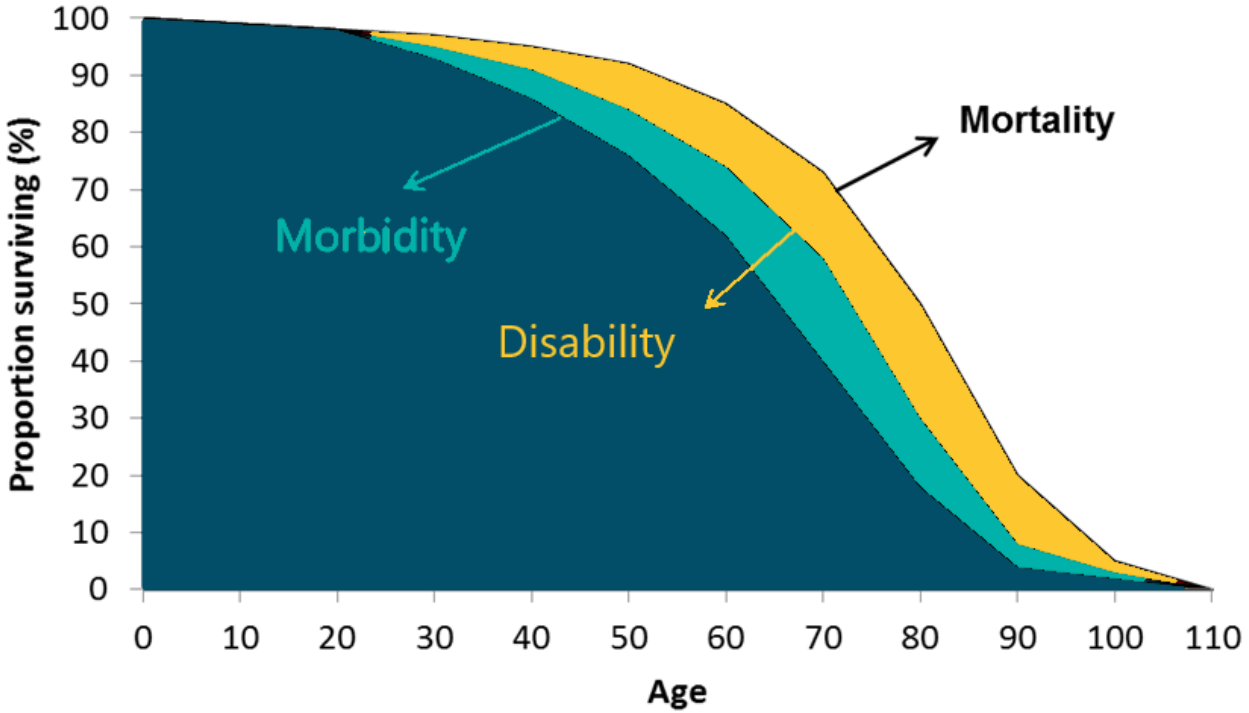
Combines health and mortality

Want to add more years in good health than bad health to life expectancy

Many measures of health, including:

- Self-rated health
- Disability
- Dependency
- Cognitive impairment
- Dementia
- Frailty

Years in poor health not necessarily at end of life



Proportion surviving with disability
Proportion surviving with morbidity
Proportion surviving without morbidity or disability

INTRODUCTION

Cross-sectional studies

Cognitive Function and Ageing Studies

- Between 1991 and 2008
- Increase in life expectancy for men and women[1,2]
- Gains in years lived disability-free larger for men than women[1]
- Years lived with low or high dependency increased for men and women[2]

Office for National Statistics[3]

- Between 2001-2004 and 2005-2008
- Increase in life expectancy across all deprivation groups for men and women
- Disability-free life expectancy increased for men in all deprivation groups apart from most deprived
- Disability-free life expectancy increased for women in two least deprived quintiles

1. Jagger, C., et al., *A comparison of health expectancies over two decades in England: results of the Cognitive Function and Ageing Study I and II.* The Lancet, 2016. **387**(10020): p. 779-786.
2. Kingston, A., et al., *Is late-life dependency increasing or not? A comparison of the Cognitive Function and Ageing Studies (CFAS).* The Lancet, 2017. **390**(10103): p. 1676-1684.
3. Smith, M.P., et al., *Inequalities in disability-free life expectancy by area deprivation: England, 2001-04 and 2005-08.* Health Statistics Quarterly, 2010. **48**.

COGNITIVE FUNCTION AND AGEING STUDIES (CFAS I & II)

- **Randomly sampled**
- **Population representative**
  - Age 65 or over
- **Large sample sizes**

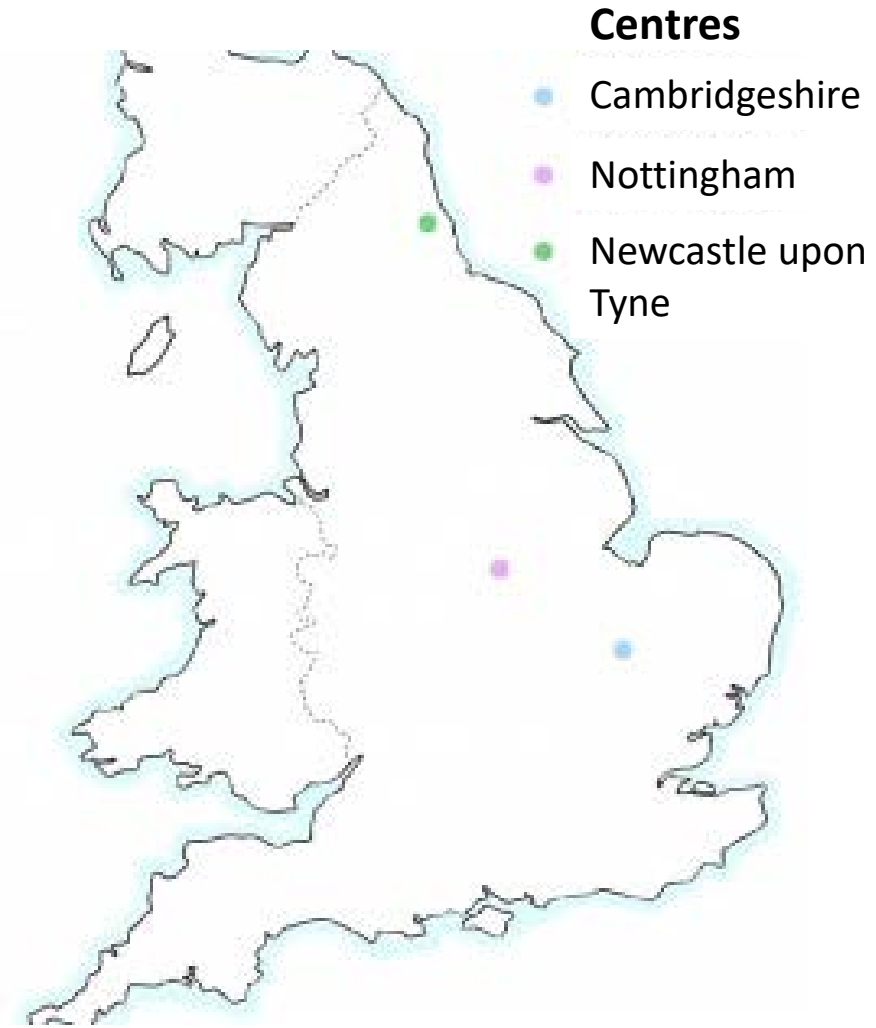
Baseline

  - 7635 in CFAS I (starting in 1991)
  - 7762 in CFAS II (starting in 2008)

Two year follow up

  - Interviewed: 5156, Died: 819 in CFAS I
  - Interviewed: 5288, Died: 643 in CFAS II

- **Informant interview**
- **Date of death from Office for National Statistics**



SOCIO-ECONOMIC MEASURE IN CFAS

Townsend deprivation index[6]

Area deprivation for postcode based on:

- Employment
- Household overcrowding
- Car ownership

Split into tertiles for each study

6. Townsend, P., *Health and Deprivation: Inequality and the North*, P. Phillimore and A. Beattie, Editors. 1988: Kent.

DISABILITY MEASURE IN CFAS

Impairment in Activities of Daily Living (ADL)[4]

Severe disability

- Housebound
- OR required help with at least one of the following:
  - Washing all over
  - Preparing and cooking a hot meal
  - Putting on shoes and socks

Mild/moderate disability

Required help with either:

- Heavy housework
- Shopping and carrying heavy bags.

No disability

Did not need help with any of the above and could get around outside the house

4. Townsend, P., *Poverty in the United Kingdom*. 1979, Harmonsworth, UK: Pelican.

DEPENDENCY MEASURE IN CFAS

5. Isaacs, B. and Y. Neville, *The needs of old people. The 'interval' as a method of measurement.* Brit. J. prev. soc. Med., 1976. **30**: p. 79-85.

Interval of need[5]

High dependency

- Requires 24 hour care
  - Care needs unpredictable
  - Care needed constantly

- Chair or bedbound
- Severe cognitive impairment (score 0-9 on the MMSE)
- OR needed help with either:
  - Toileting
  - Feeding
- Incontinence replaced toileting in CFAS I wave c2

Medium dependency

- Requires care at regular times each day

Needs help with either:
- Preparing and cooking a hot meal
- Putting on shoes and socks

Low dependency

- Needs help less than daily

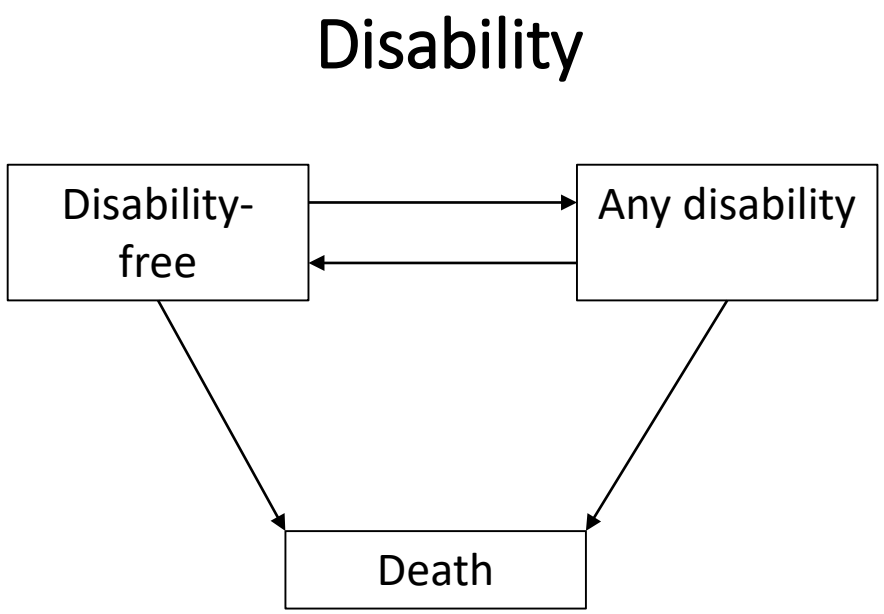
Requires help with:
- Cutting their toenails
- Shopping
- Doing light or heavy housework
- Washing or bathing

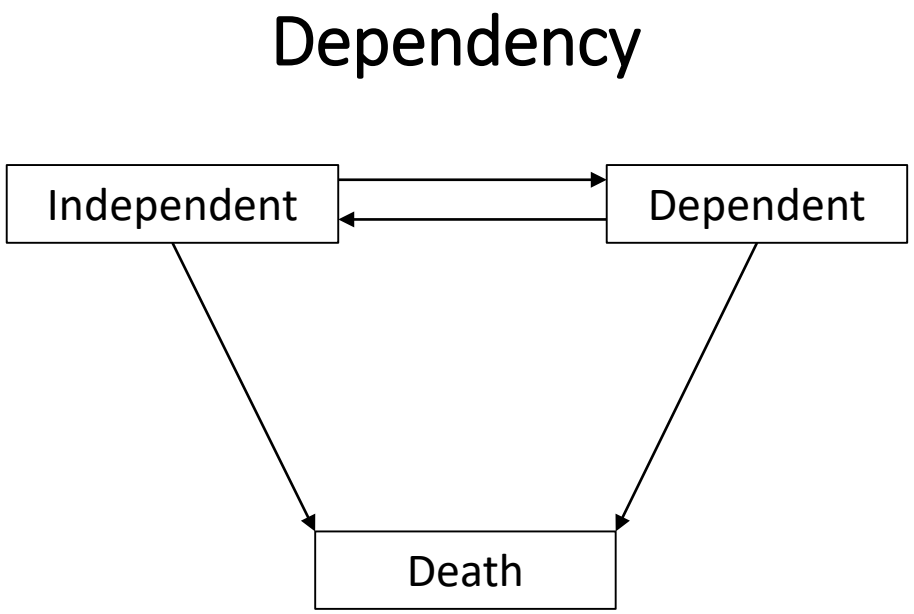
Independent

- Does not require care

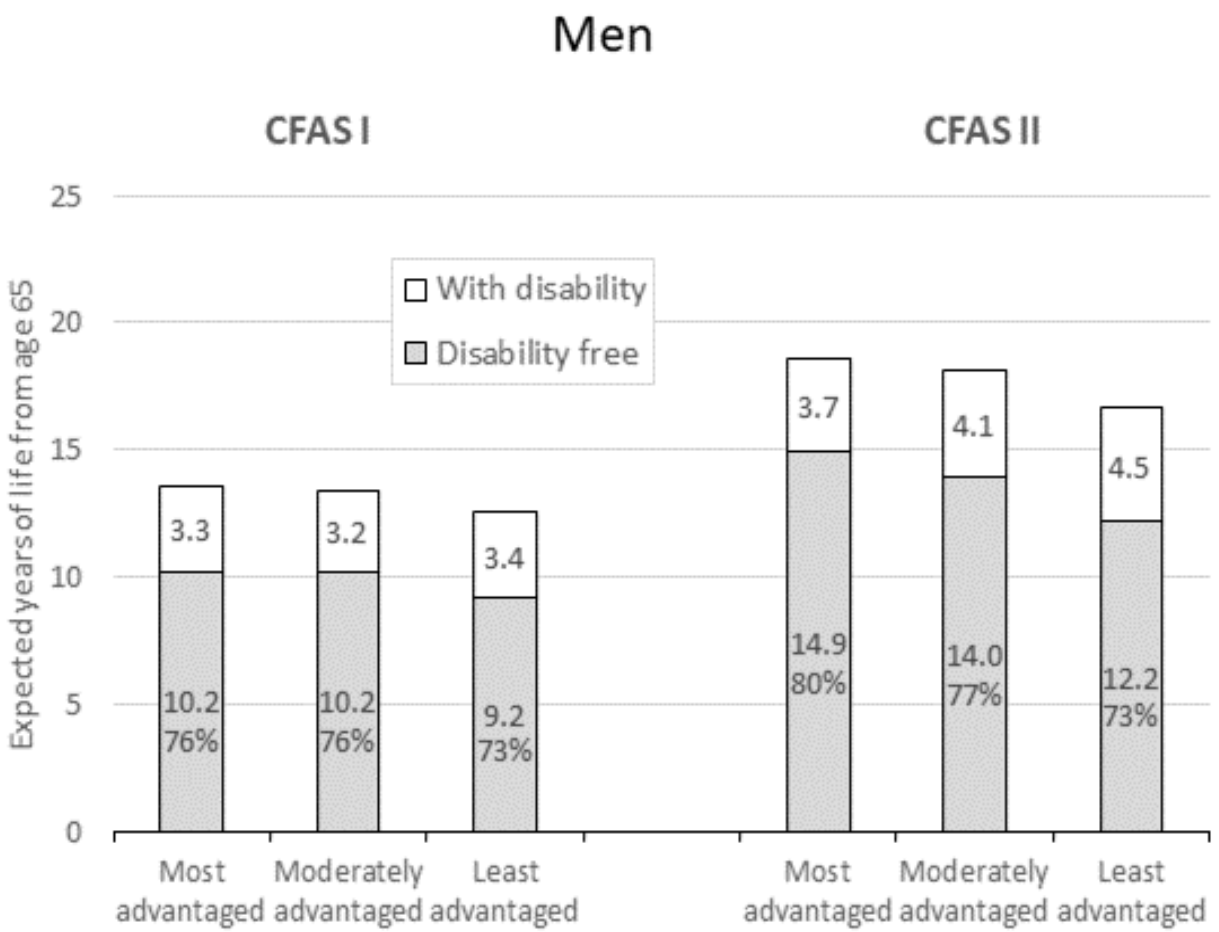
Anyone not categorised into any other dependency group

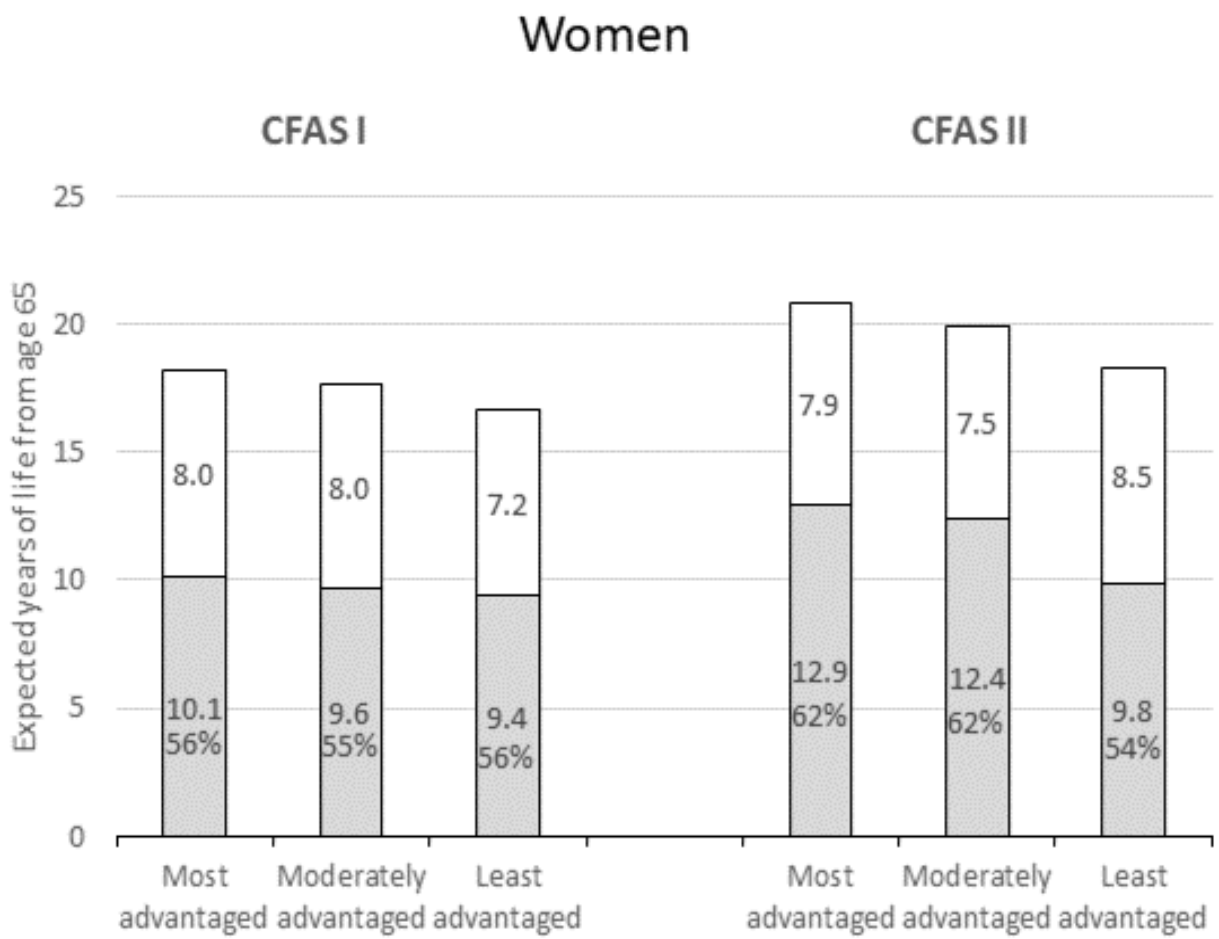
Multistate survival models





DISABILITY RESULTS – DFLE AT AGE 65 BY SOCIOECONOMIC STATUS





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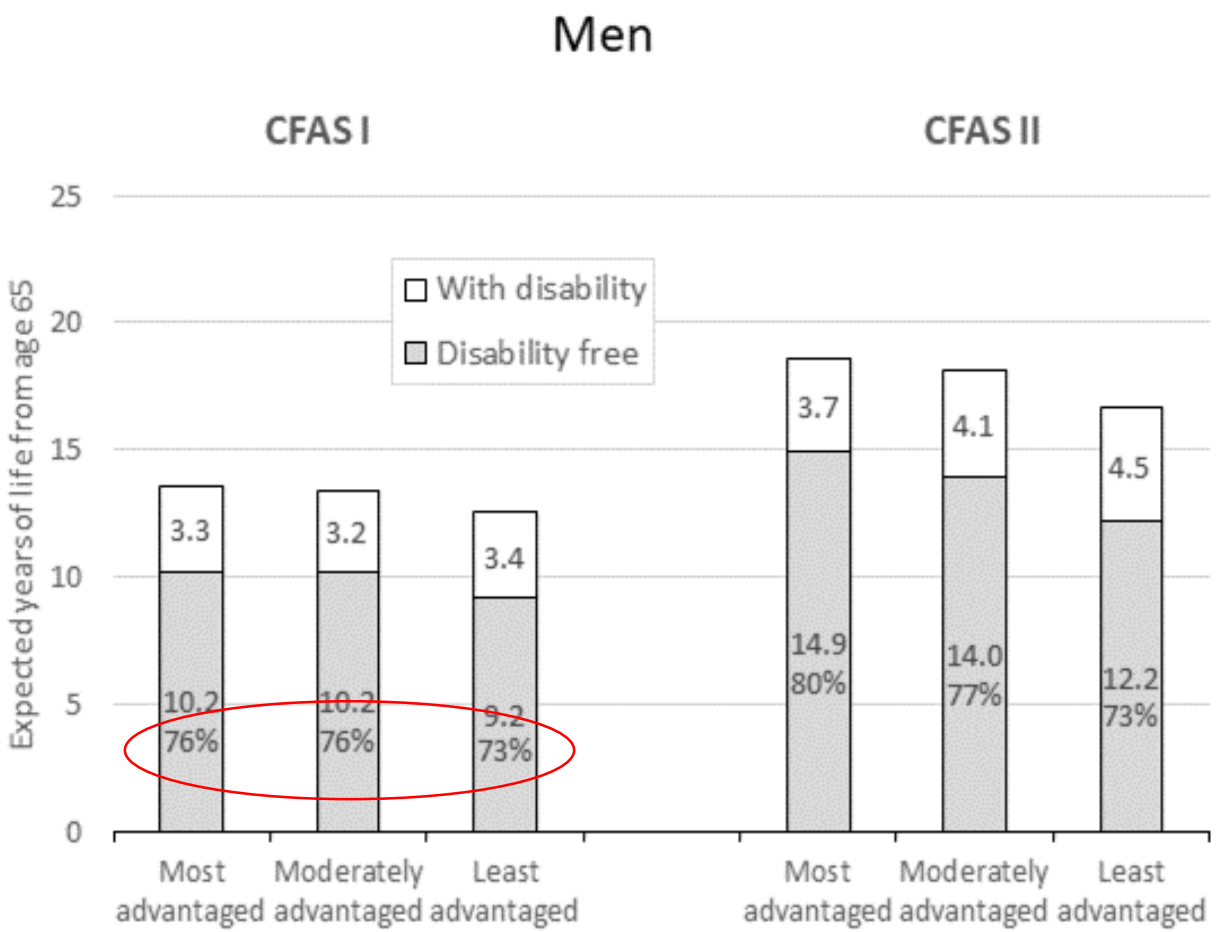

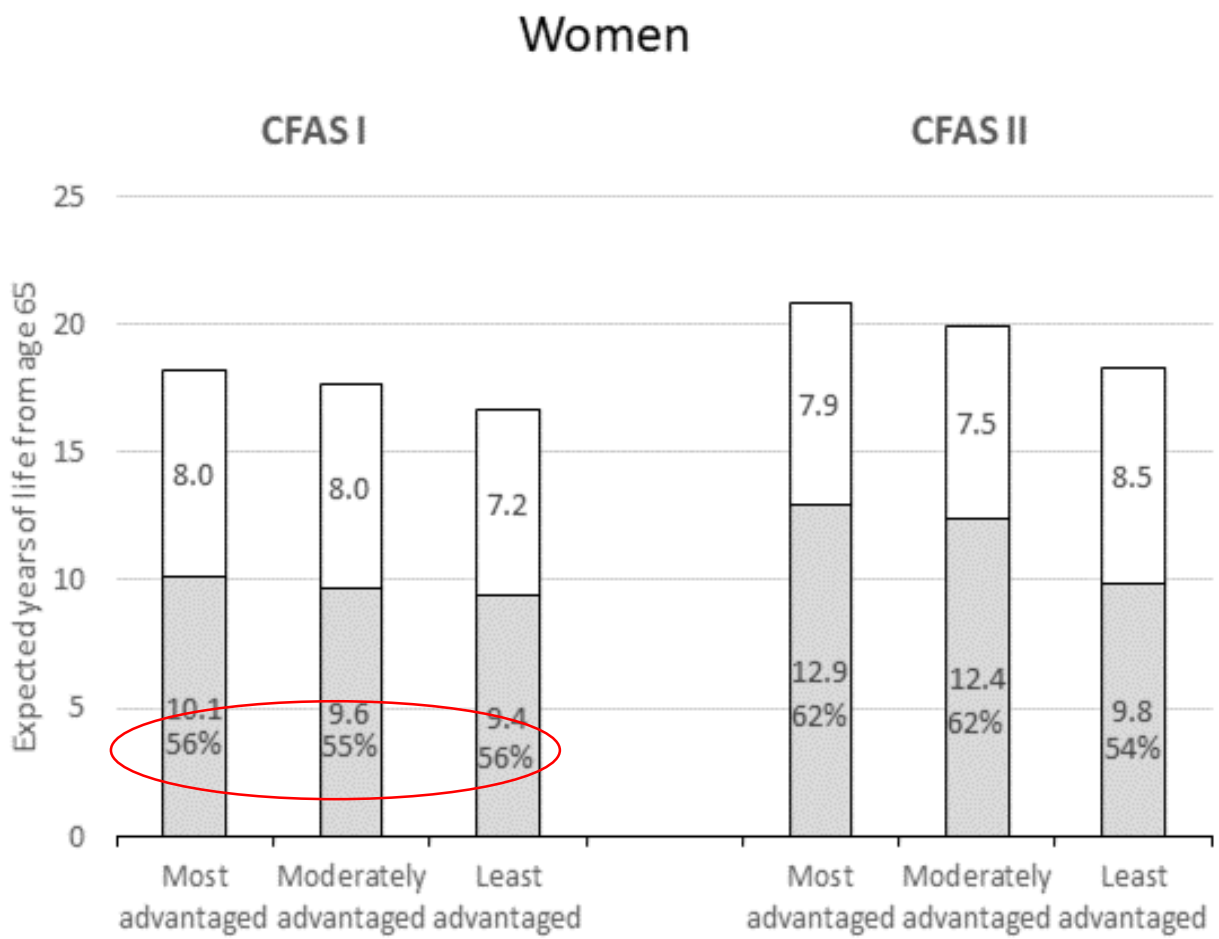

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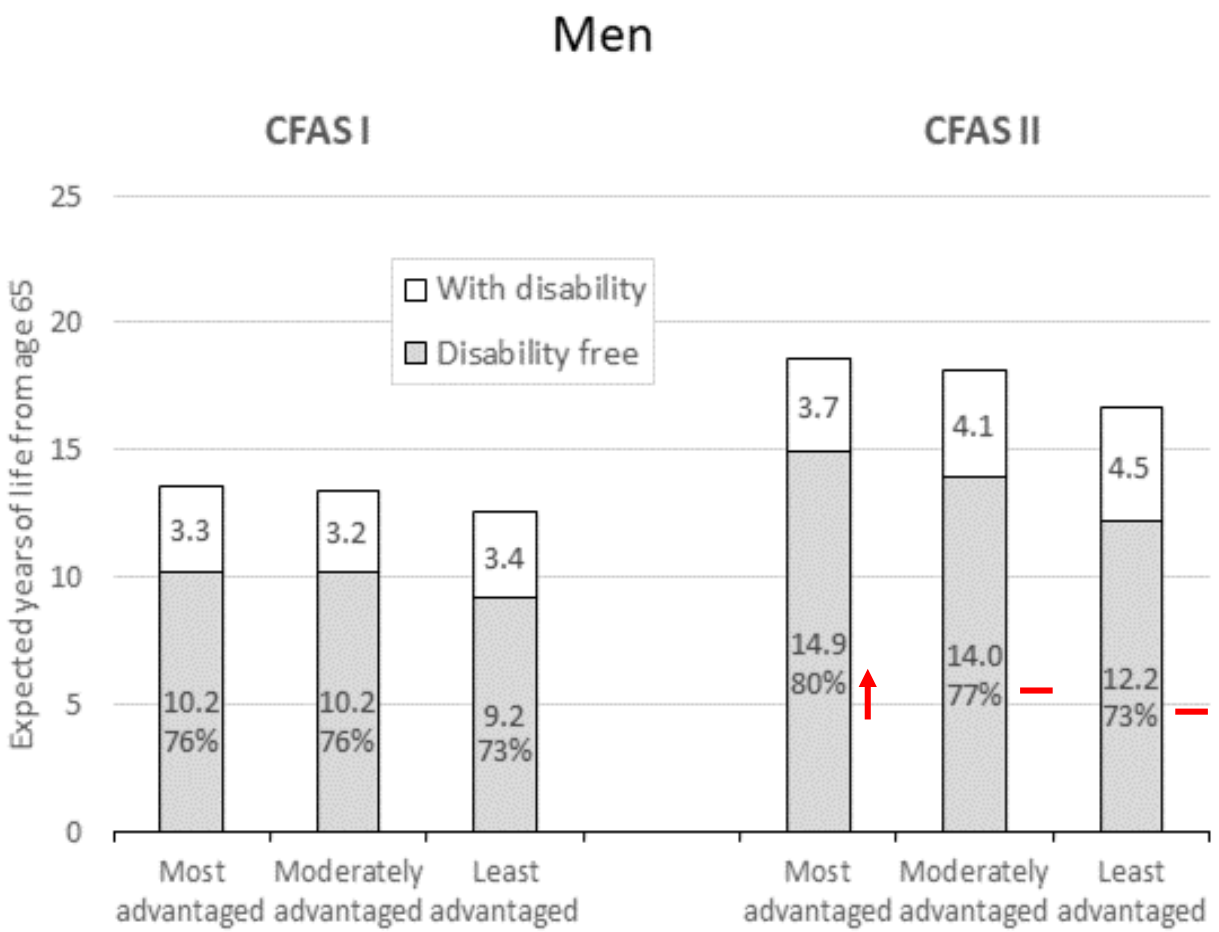

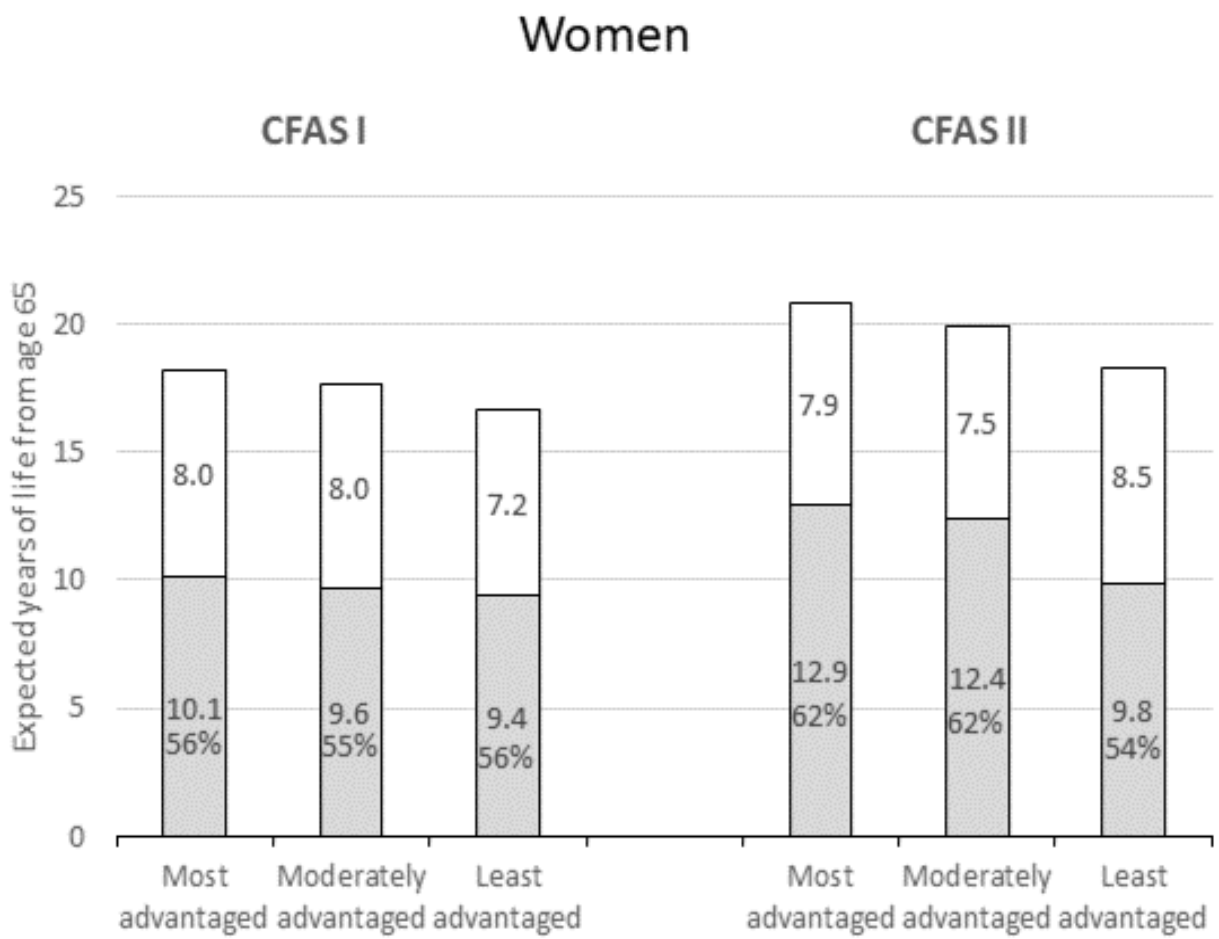

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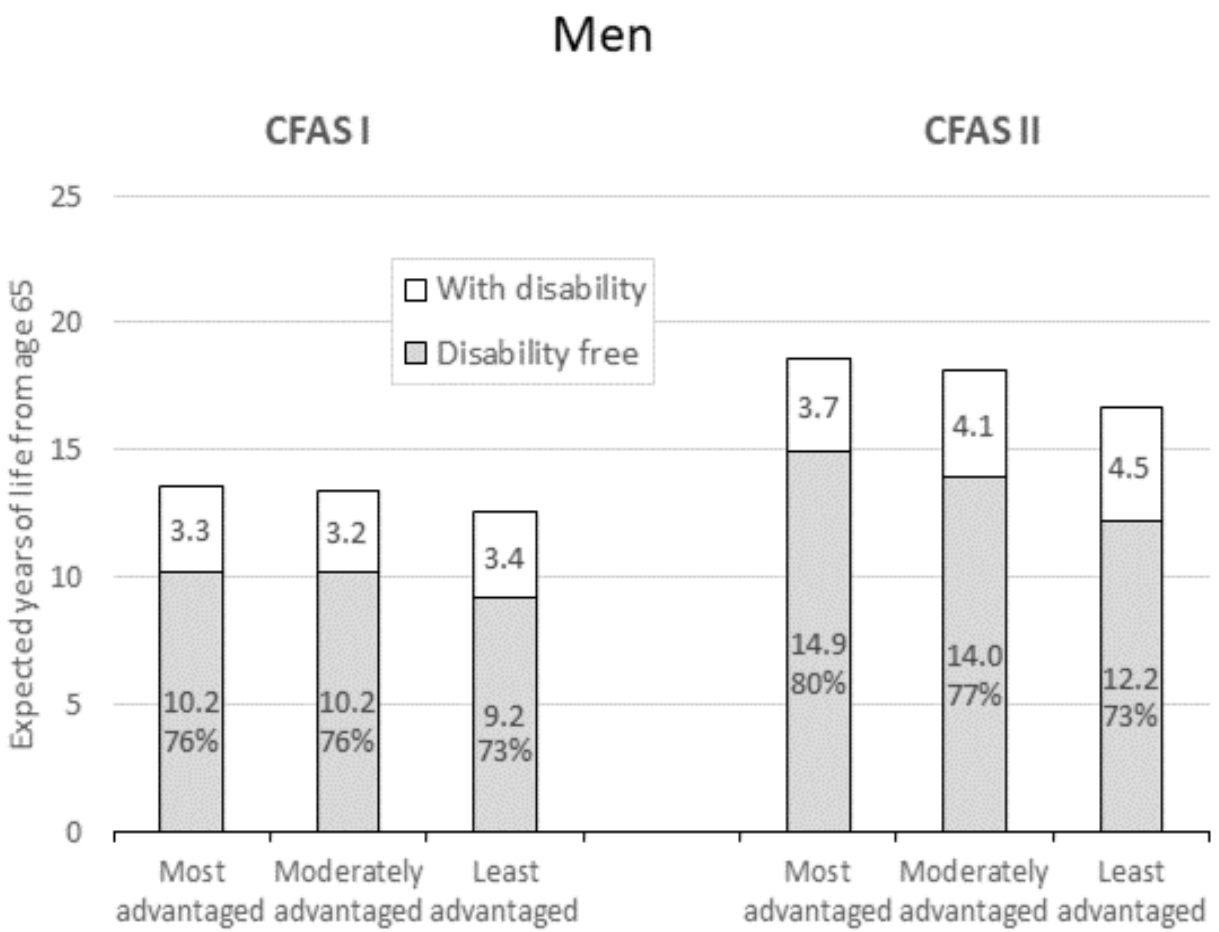

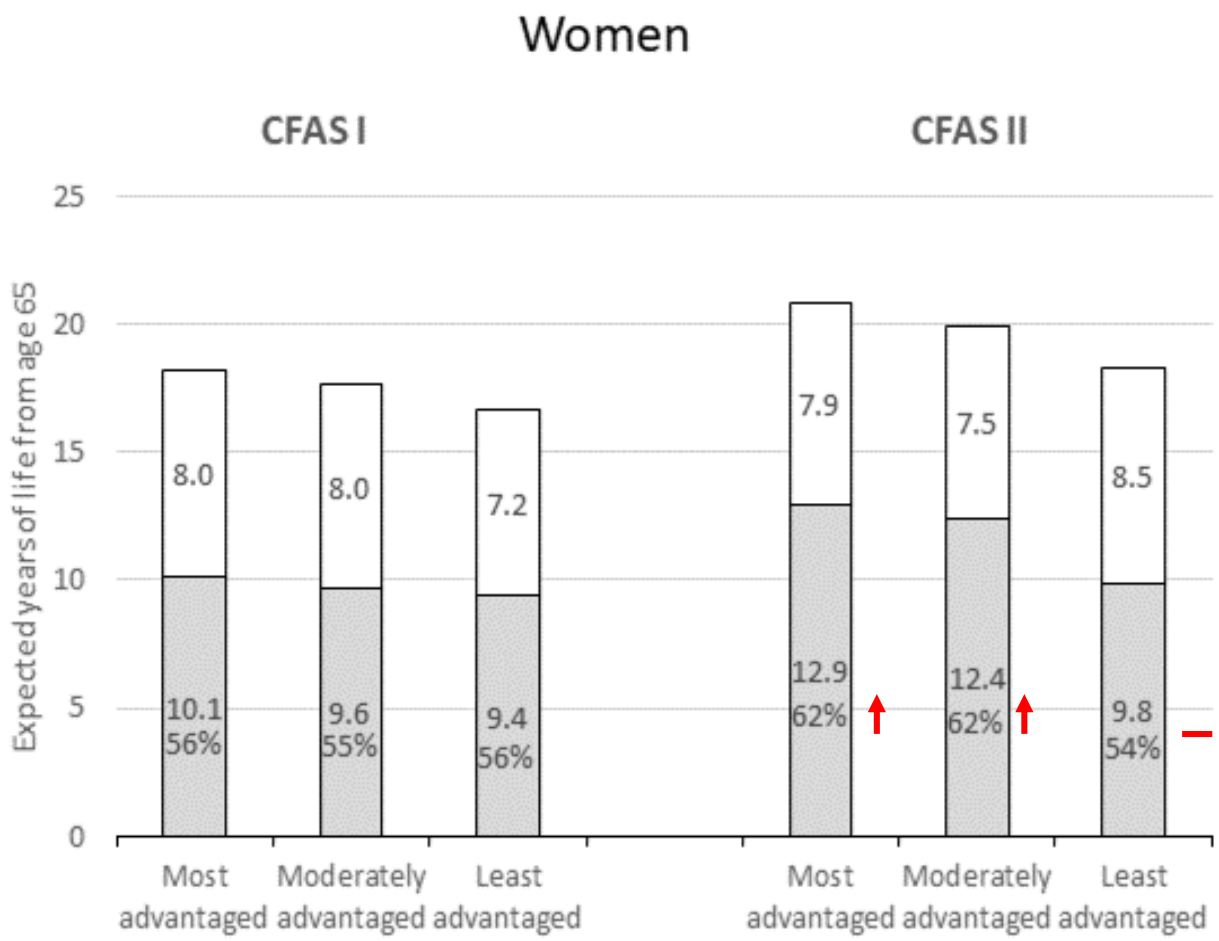

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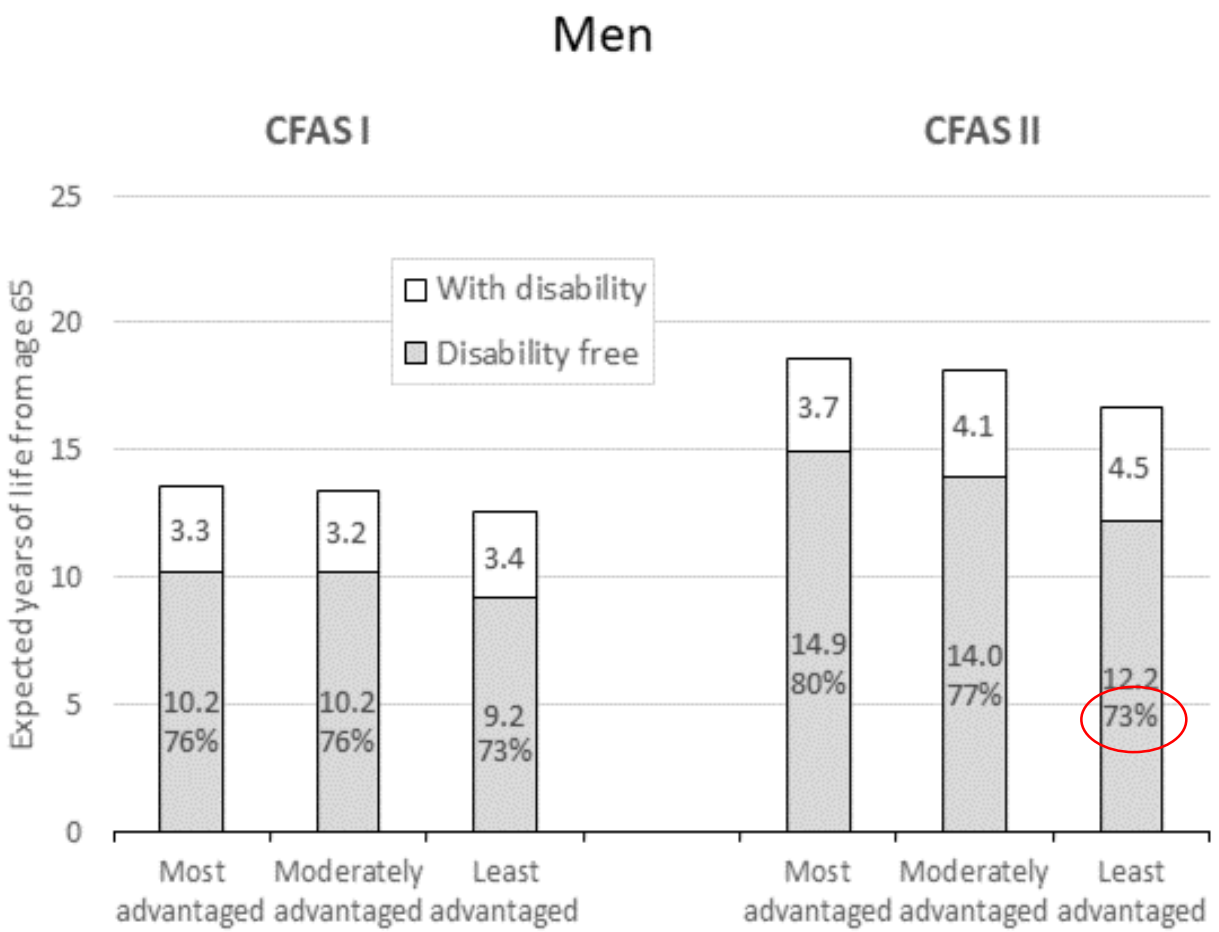

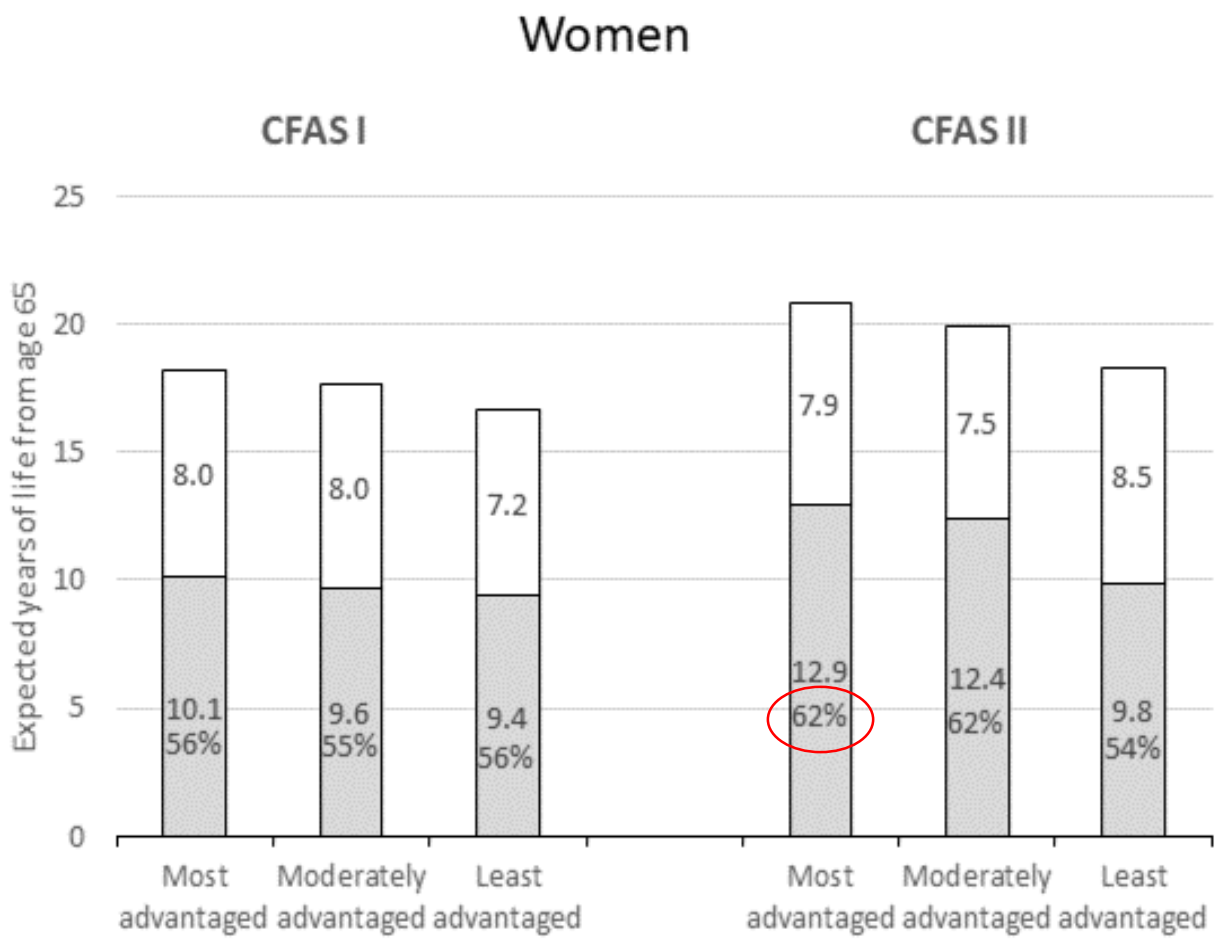

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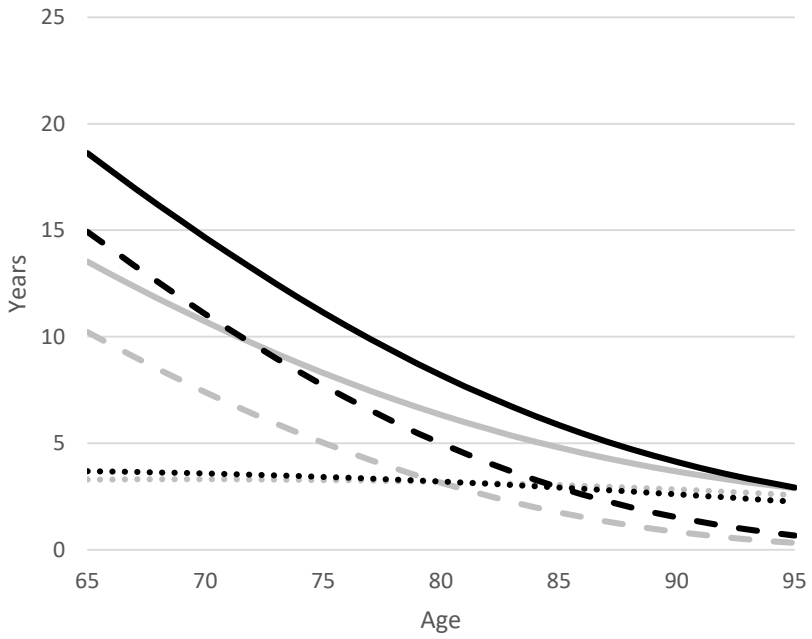
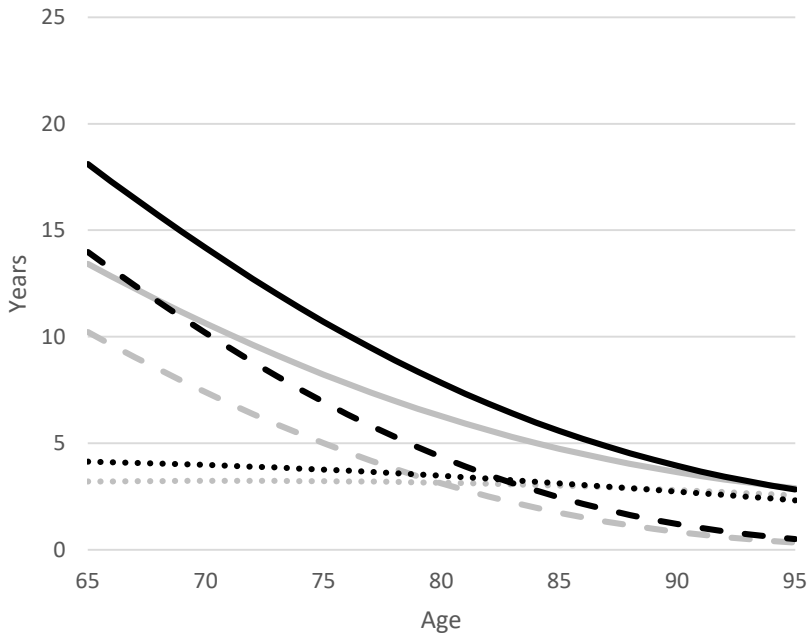
DISABILITY RESULTS – MEN'S LE BY SES GROUP

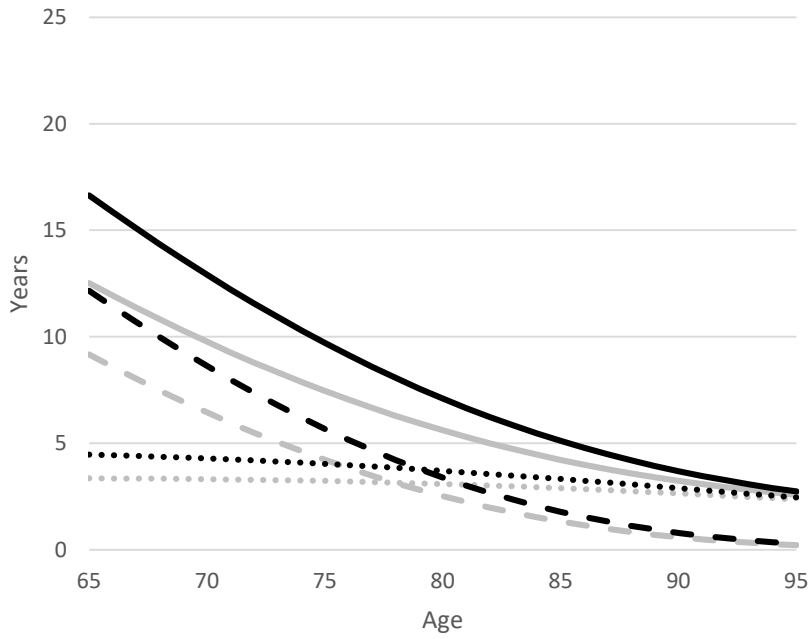
Most advantaged



Moderately advantaged



Least advantaged



CFAS I Total life expectancy
CFAS I Disability-free life expectancy
CFAS I Life expectancy with disability
CFAS II Total life expectancy
CFAS II Disability-free life expectancy
CFAS II Life expectancy with disability

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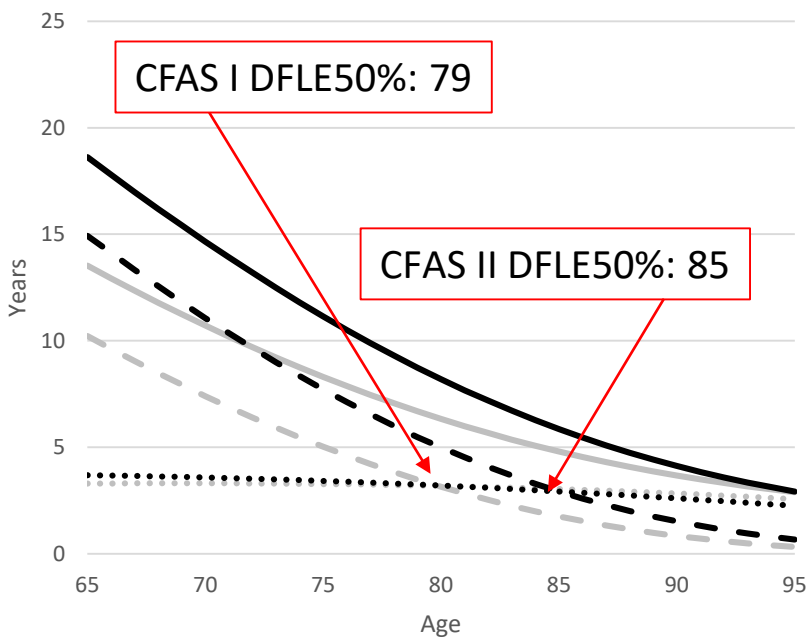
DISABILITY RESULTS – MEN'S LE BY SES GROUP

Most advantaged



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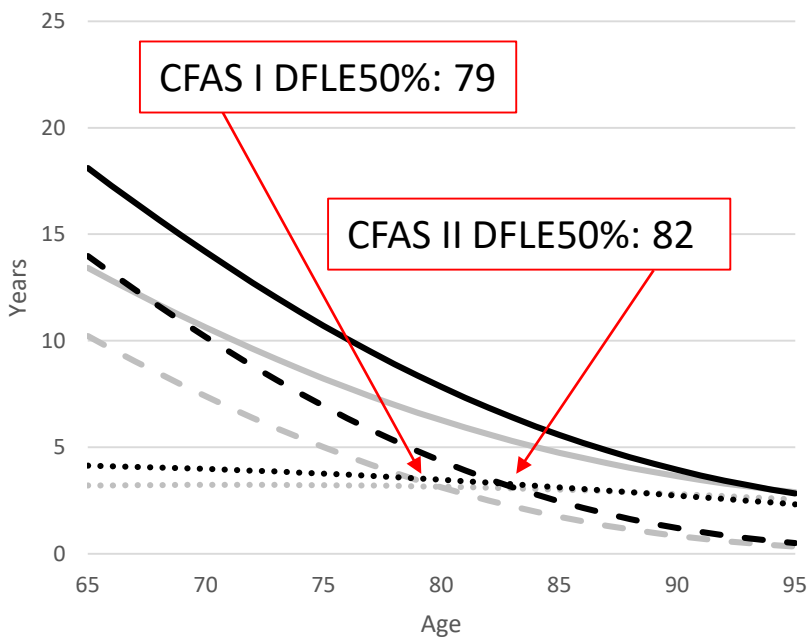
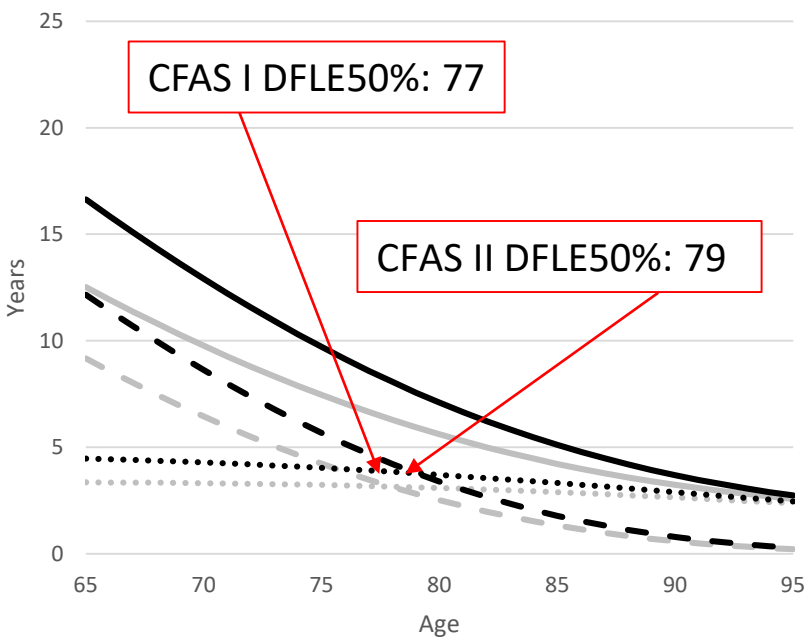


Least advantaged



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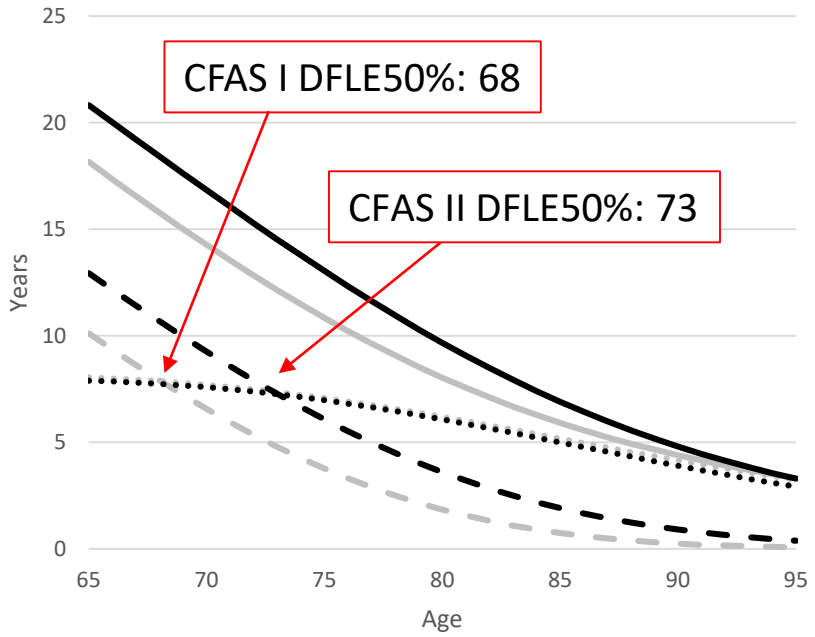
DISABILITY RESULTS – WOMEN'S LE BY SES GROUP

Most advantaged



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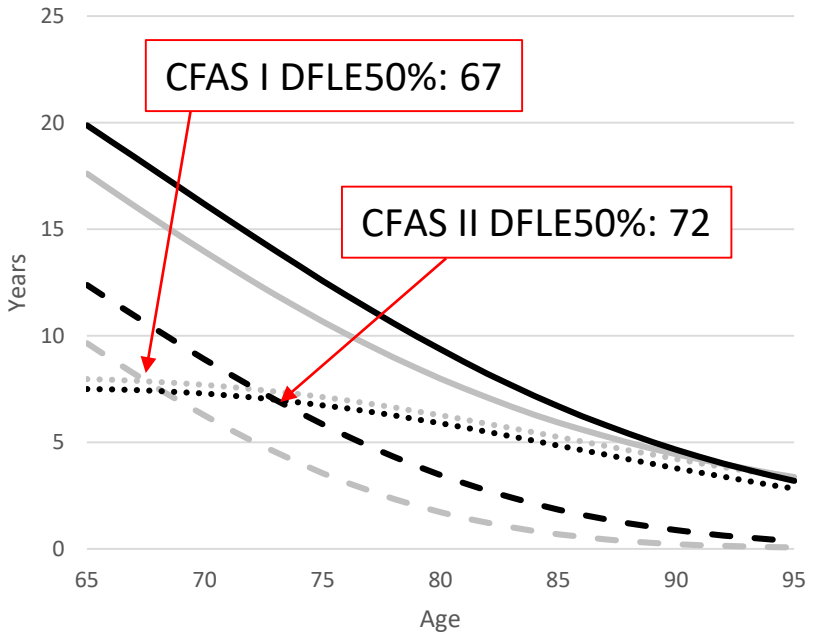
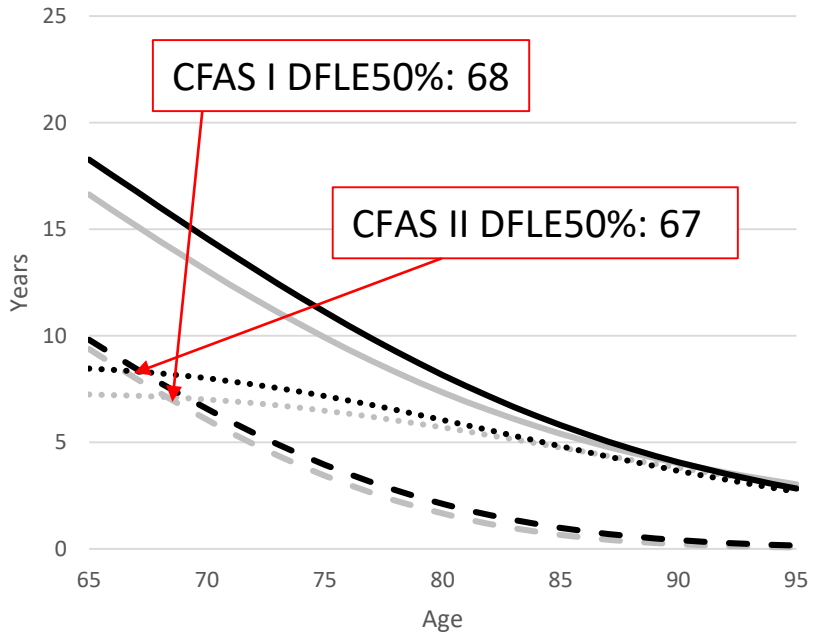


Least advantaged



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DISABILITY RESULTS – RRR of transitioning in CFAS II compared to CFAS I

Gender	Socioeconomic Status	RRR* (95% CI)			
		No disability to disability	No disability to death	Disability to no disability	Disability to death
Men	Most advantaged	0.9 (0.6 – 1.2)	0.4 (0.3 – 0.6)	1.8 (1.0 – 3.2)	1.0 (0.8 – 1.2)
	Mid advantaged	0.7 (0.5 – 1.0)	0.4 (0.2 – 0.7)	1.0 (0.6 – 1.8)	0.8 (0.7 – 1.0)
	Least advantaged	0.7 (0.5 – 1.0)	0.7 (0.4 – 1.3)	1.0 (0.5 – 1.8)	0.7 (0.6 – 0.9)
Women	Most advantaged	0.7 (0.5 – 0.8)	0.7 (0.4 – 1.6)	0.8 (0.6 – 1.2)	0.9 (0.8 – 1.1)
	Mid advantaged	0.6 (0.5 – 0.8)	0.7 (0.4 – 1.4)	1.5 (1.0 – 2.4)	0.9 (0.8 – 1.1)
	Least advantaged	0.9 (0.7 – 1.2)	0.5 (0.2 – 1.6)	1.1 (0.7 – 1.6)	0.9 (0.7 – 1.0)

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DEPENDENCY RESULTS

- Results for independent life expectancies broadly similar to results for disabilities

Apart from:

- Proportion of life spent independent at age 65 decreased for least advantaged men
  - But remained similar for least advantaged women

- IndLE50% decreased for least advantaged men
  - Below age 65 in CFAS I and CFAS II for least advantaged women

- Most advantaged men and women both more likely to recover from dependency in CFAS II compared to CFAS I

RESEARCH IMPLICATIONS

- **Widening of inequalities in disability-free and independent life expectancies**
- **Improvements for most advantaged groups**
- **Declines or stability for least advantaged groups**
- **For disability reason for improvement in the most advantaged was different between men and women**
  - Most advantaged men more likely to recover in CFAS II compared to CFAS I
  - Decreased probability of incident disability for most advantaged women in CFAS II compared to CFAS I
- **Most advantaged men and women more likely to recover from dependence**
  - But Least advantaged men less likely to die from dependent state
- **Need to address inequalities in access and willingness to address health behaviours and attend primary/secondary/tertiary care**

DISCLOSURE(S)

We have no commercial relationships to disclose.

The Dunhill Medical Trust

Alzheimer's Society United Against Dementia

AXA Research Fund

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Turning 75: Why Age Matters

THANK YOU

Professor Carol Jagger
Professor Fiona Matthews
Dr. Andrew Kingston

Email: holly.bennett@newcastle.ac.uk

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CFAS Cognitive Function & Ageing Study