Explaining health inequality at older ages in England and Wales

Pia Wohland, Carol Jagger, Fiona Matthews and Vikki O'Neill

BSPS 2014, University of Winchester, 8.- 10. September

InHALE

Inequalities in Healthy Active Life Expectancy: the role of time, place, person and methods

InHALE webpage:

http://research.ncl.ac.uk/InHALE/

JECH Online First, published on June 6, 2014 as 10.1136/jech-2014-204083
Research report

OPEN ACCESS

Drivers of inequality in disability-free expectancy at birth and age 85 across space and time in Great Britain

Pia Wohland,[1] Phil Rees,[2] Clare Gillies,[3] Seraphim Alvanides,[4] Fiona E Matthews,[5] Vikki O'Neill,[5] Carol Jagger[1]

Ethnicity & Health, 2014
http://dx.doi.org/10.1080/13557858.2014.921892
Routledge Taylor & Francis Group

Inequalities in healthy life expectancy between ethnic groups in England and Wales in 2001

Pia Wohland[a*], Phil Rees[b], James Nazroo[c] and Carol Jagger[a]

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

northumbria UNIVERSITY NEWCASTLE

MRC | Biostatistics Unit

Newcastle University

University of Leicester

We know

- Geographical variation in life expectancy and health expectancy in England and Wales (cross-sectional)
- Socioeconomic characteristics explain variation at area level

We want to know

- Do we find similar relationships using longitudinal data?
- Are geographical variations simply a reflection of socioeconomic status?

Research questions

1 How do health expectancies at older ages vary across areas in England and Wales ?

2 What role do individual-level socio-economic factors play in these inequalities?

MRC Cognitive Function and Ageing Study (CFAS)

- Five centres used
- Stratified random sample aged 65+ (equal numbers of 65-74, 75+)
- Includes those in institutions
- N=13004 at baseline (1991)
- Death information from National Death Registry

CFAS study

In contrast to census data

- Detailed and wide ranging health measures
  - ADLs and IADLs
  - cognitive function
  - disease and self-rated health

directly linked to

- Socio-economic information
  - level of education
  - social class (manual/non-manual work)

CFAS study - our data set

Of interest: Three health expectancies

- Disability free life expectancy (DFLE), derived from ADL/IADL
- Healthy life expectancy (HLE), derived from SRH
- Cognitive impairment free life expectnacy, derived from MMSE

Confounders

- Education
- Social class (Manual / Non-manual worker)

Data set contains cases with complete data on all health measures, education, social class and comorbidity

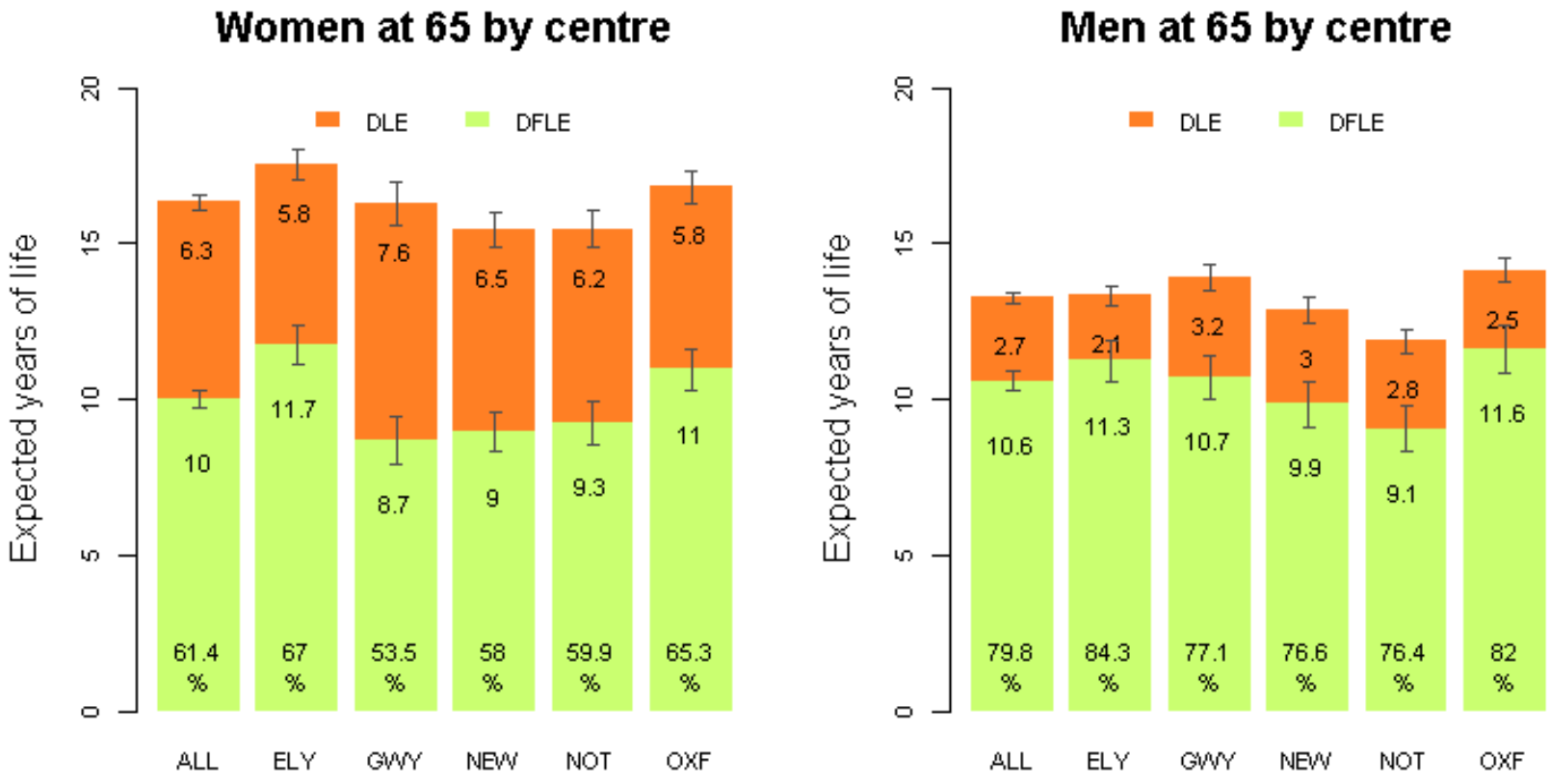
10.7% excluded (1388) more likely to be women, older and from Gwynedd

Results

Women and men at age 65

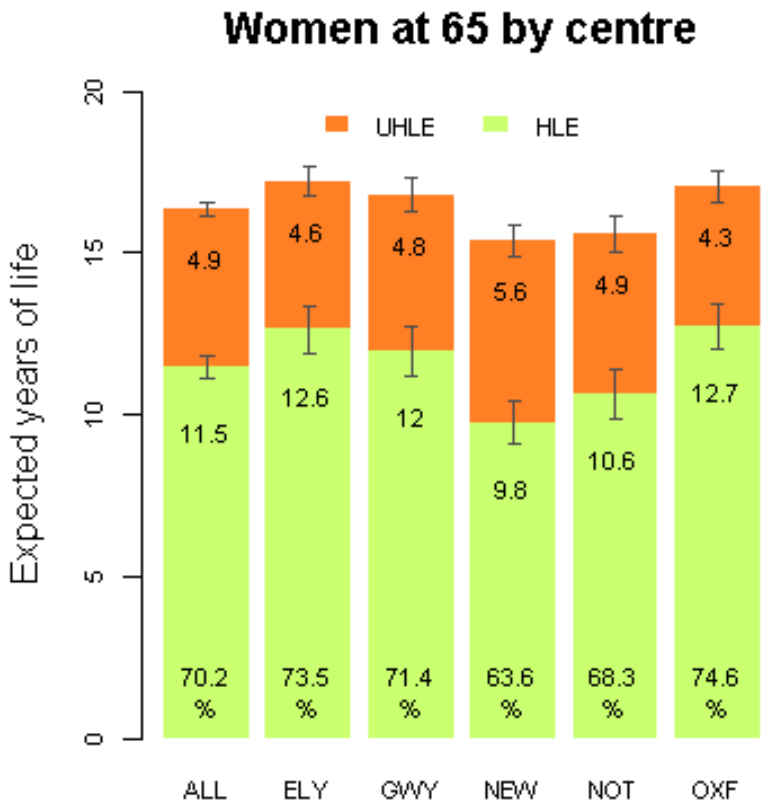
- Life years with and without an ADL/IADL limitation
- Healthy and unhealthy life years
  - By centre
  - By centre and education
  - By centre and social class

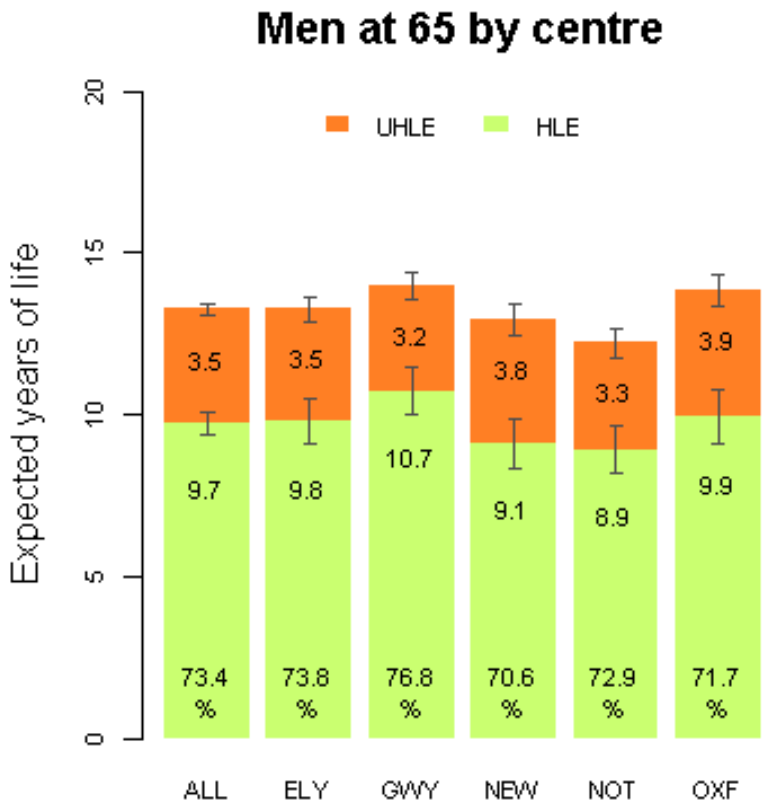
Years free and with a ADL/IADL disability



Are these differences explained by differences in educational achievement or social class?

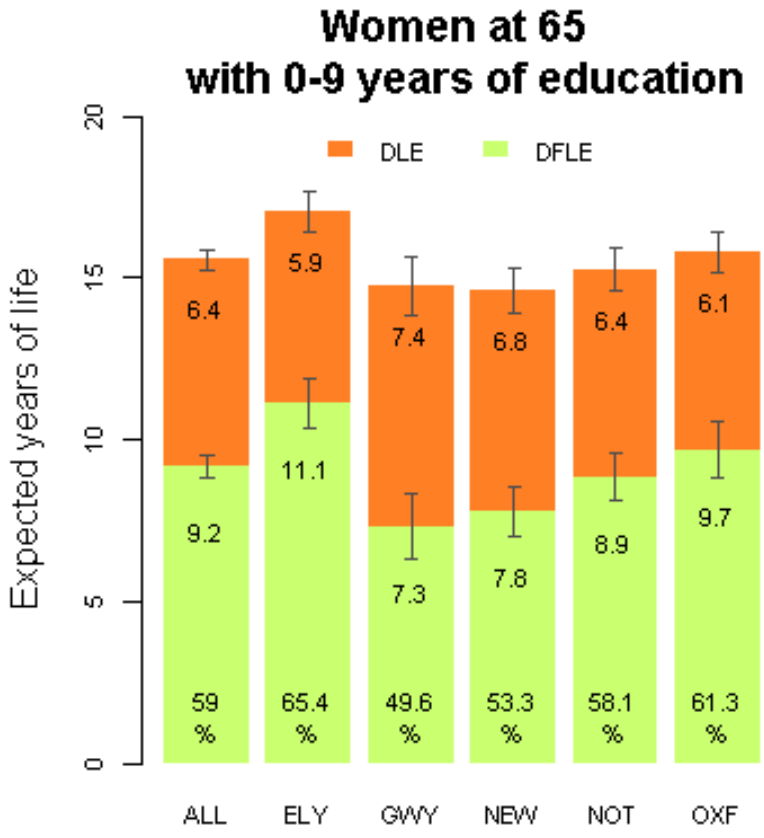
Years lived healthy and unhealthy

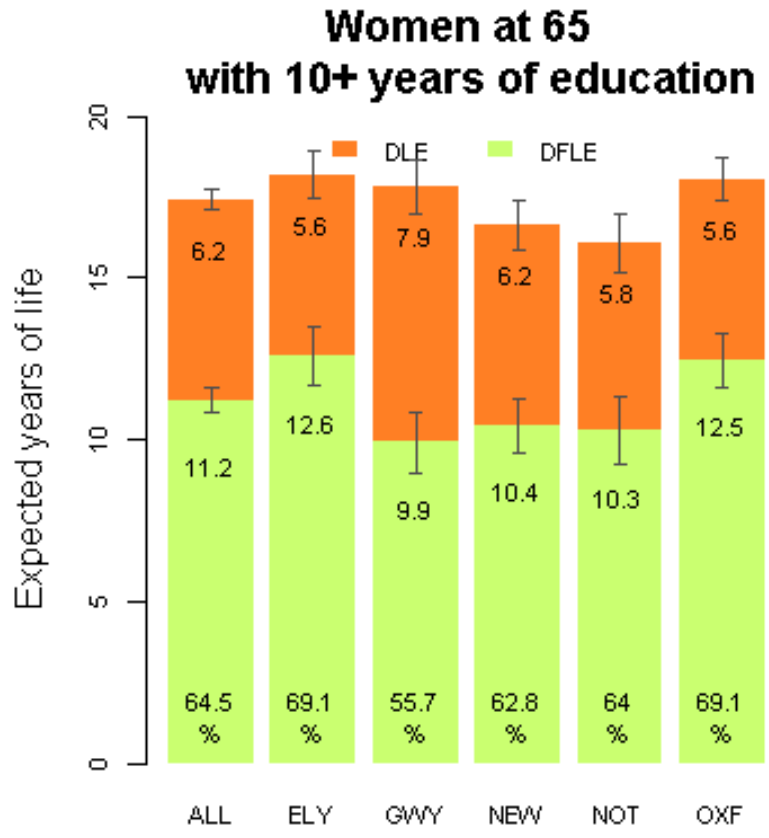




Are these differences explained by differences in educational achievement or social class?

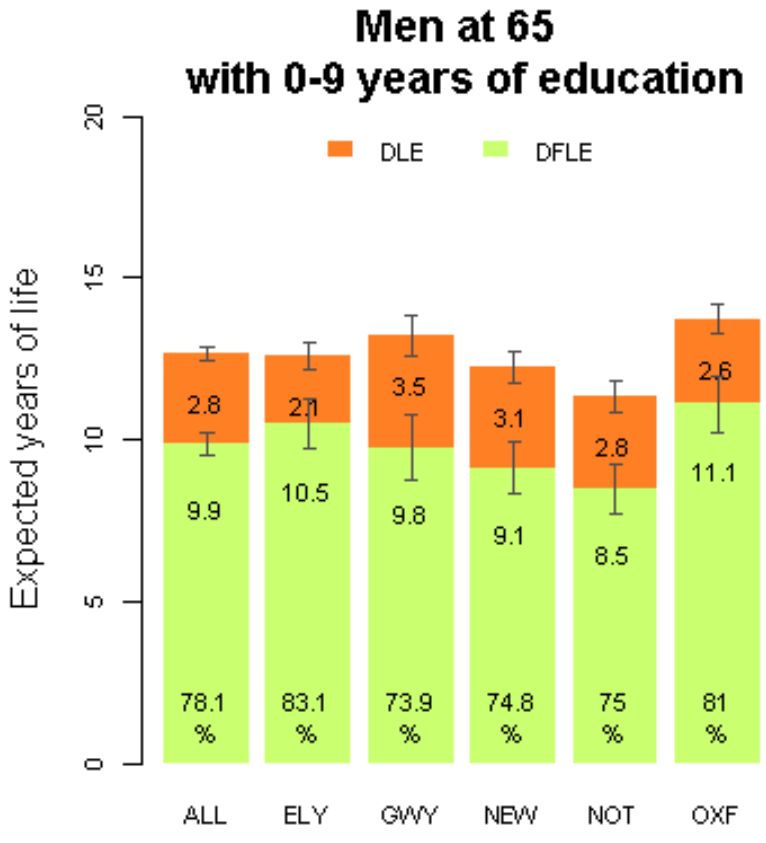
Years free and with a ADL/IADL disability

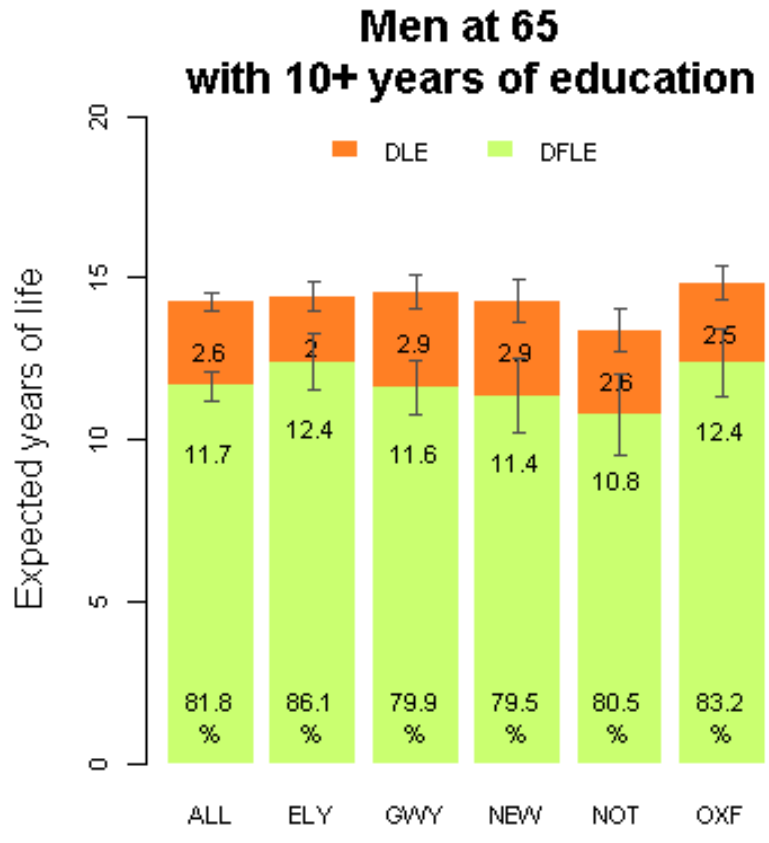




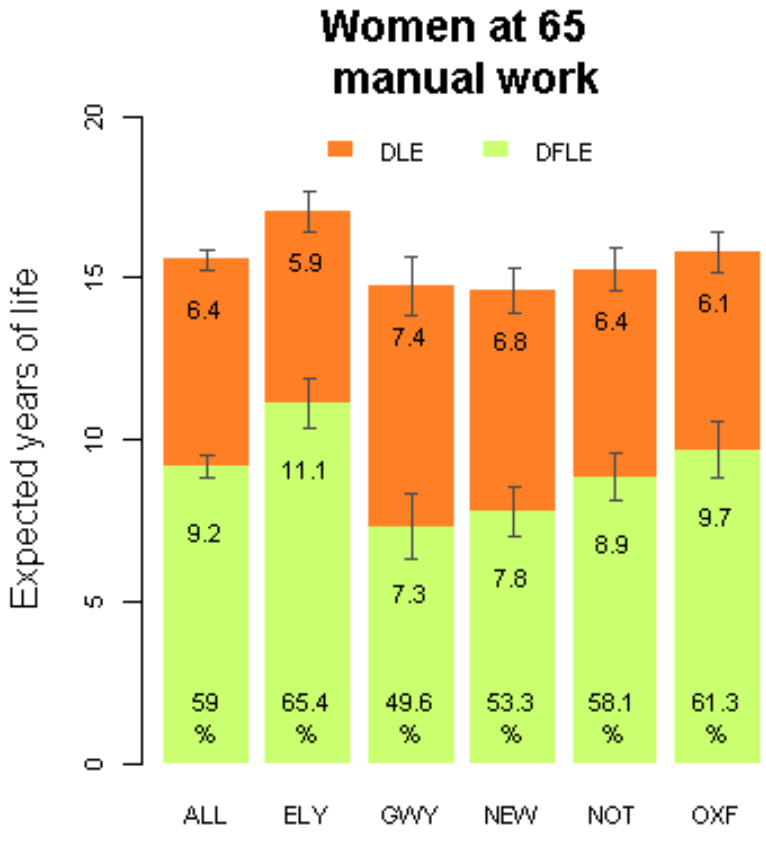
Education does not explain variation between centres. *BUT* education increases life expectancy and does not reduce time spend with a ADL/IADL.

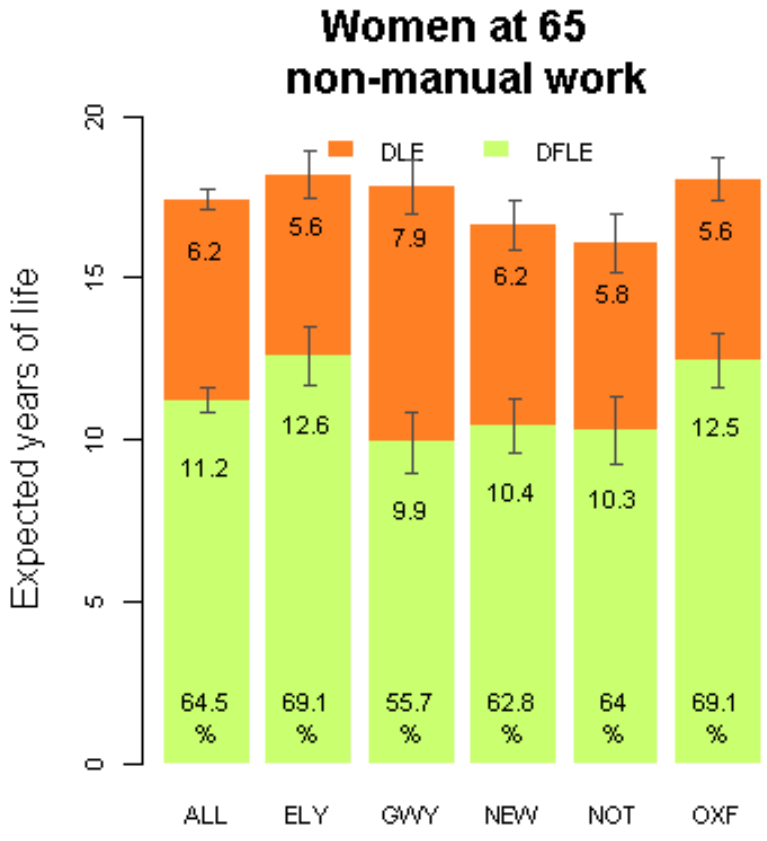
Years free and with a ADL/IADL disability



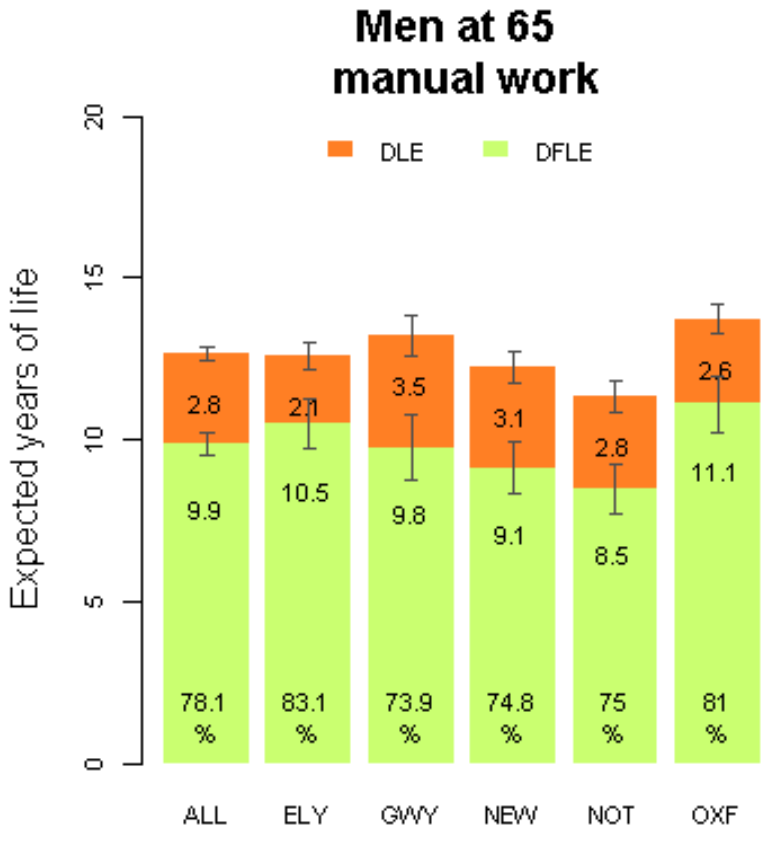


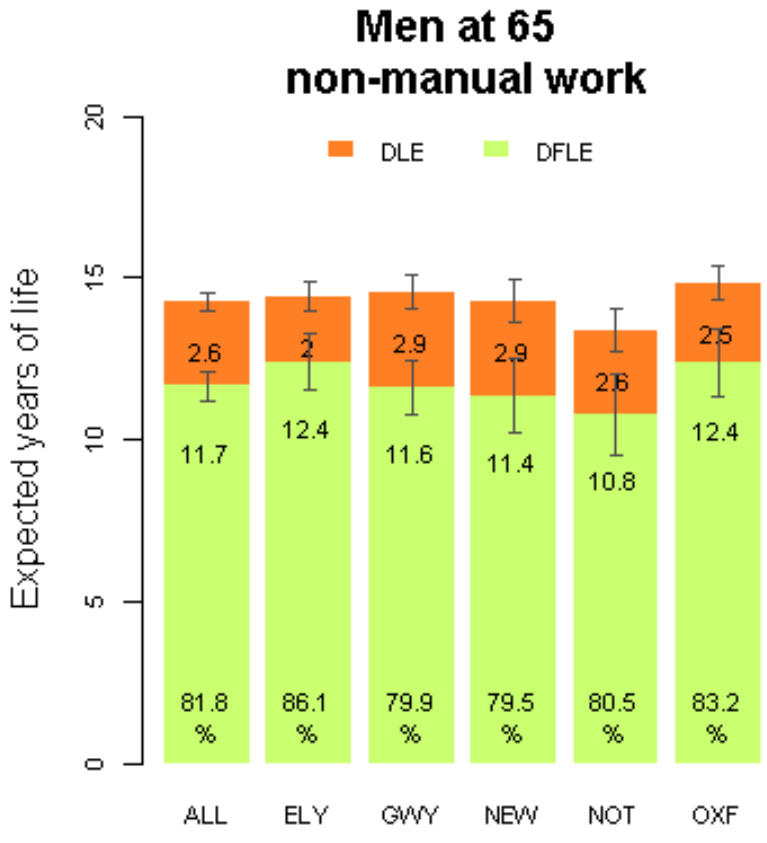
Years free and with a ADL/IADL disability



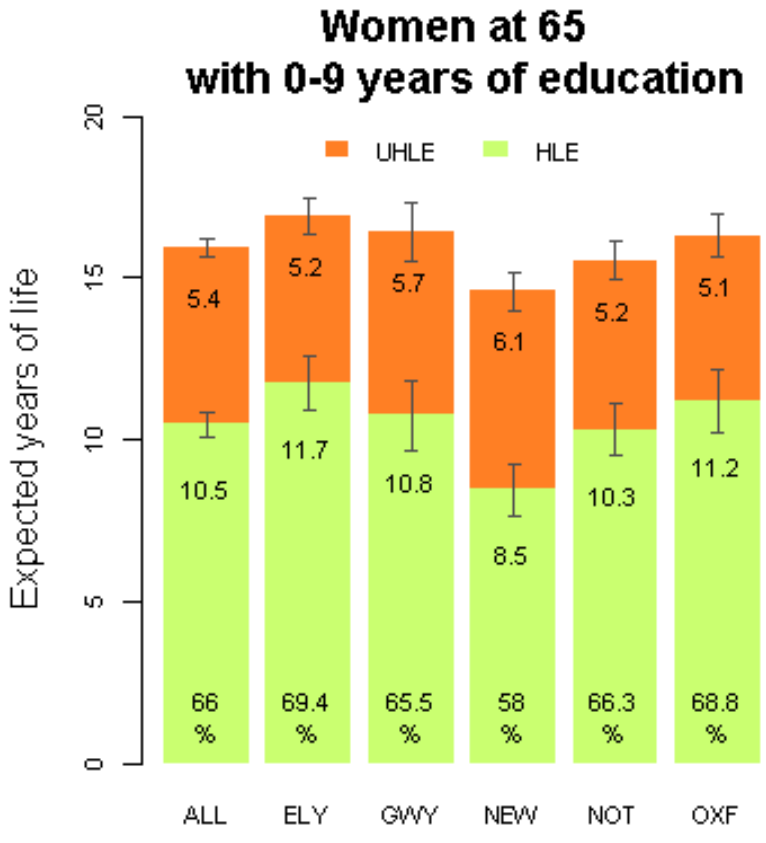


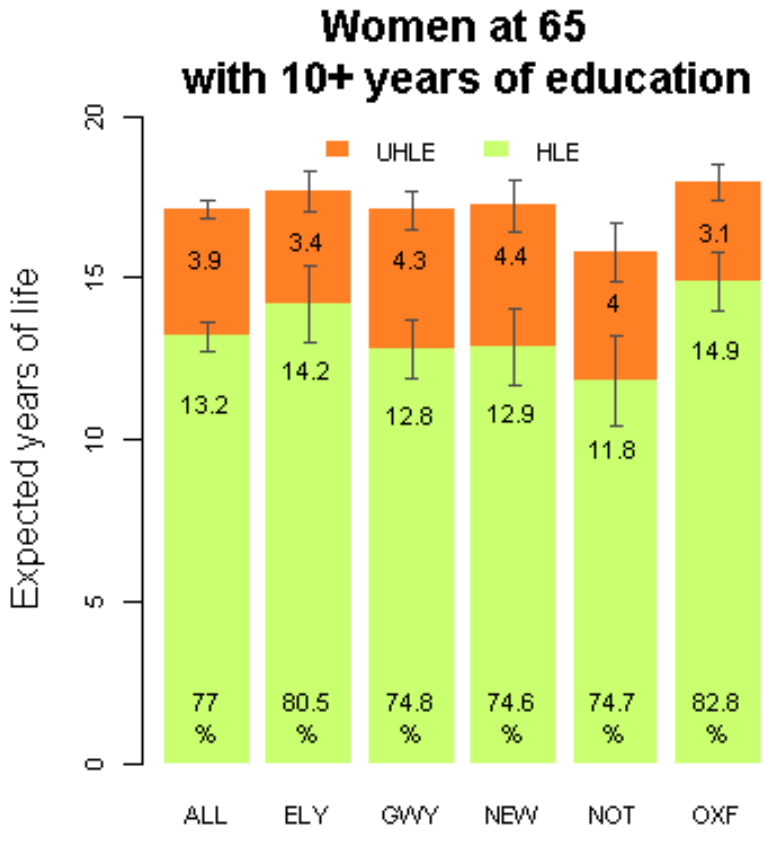
Years free and with a ADL/IADL disability



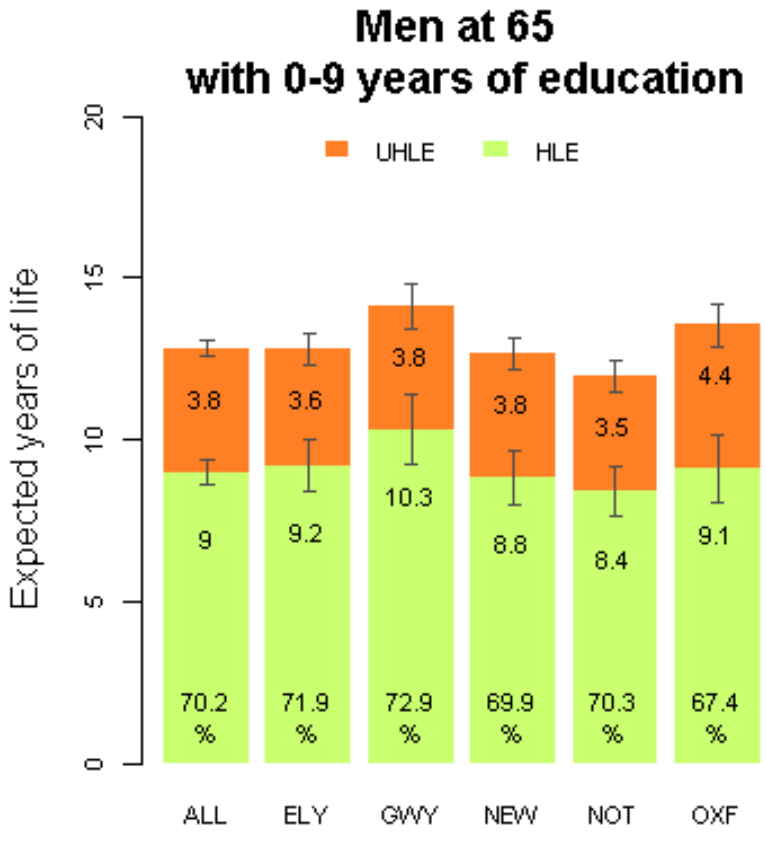


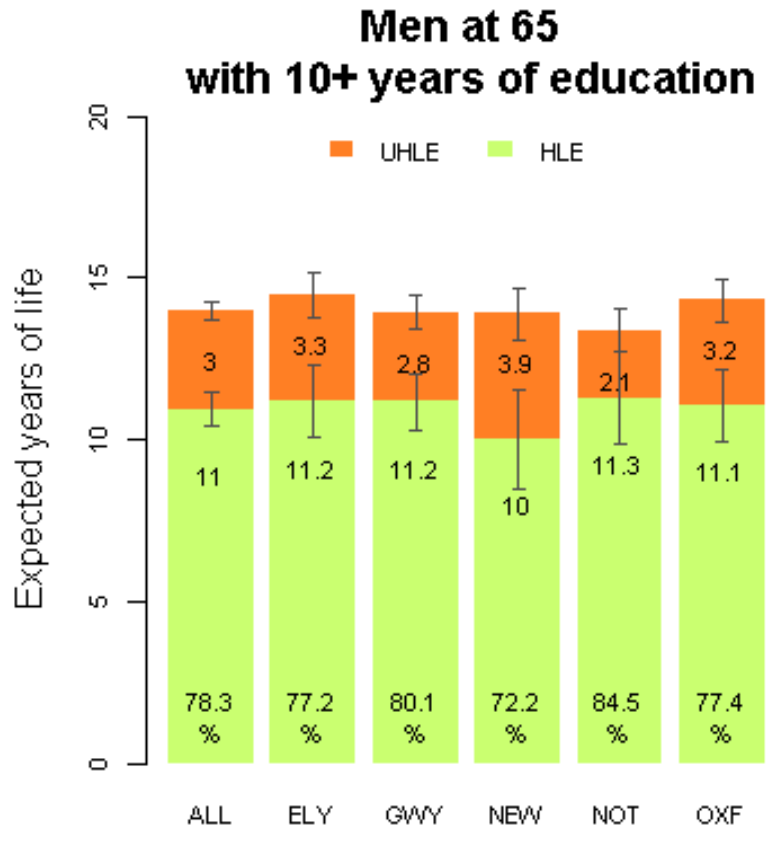
Years lived healthy and unhealthy



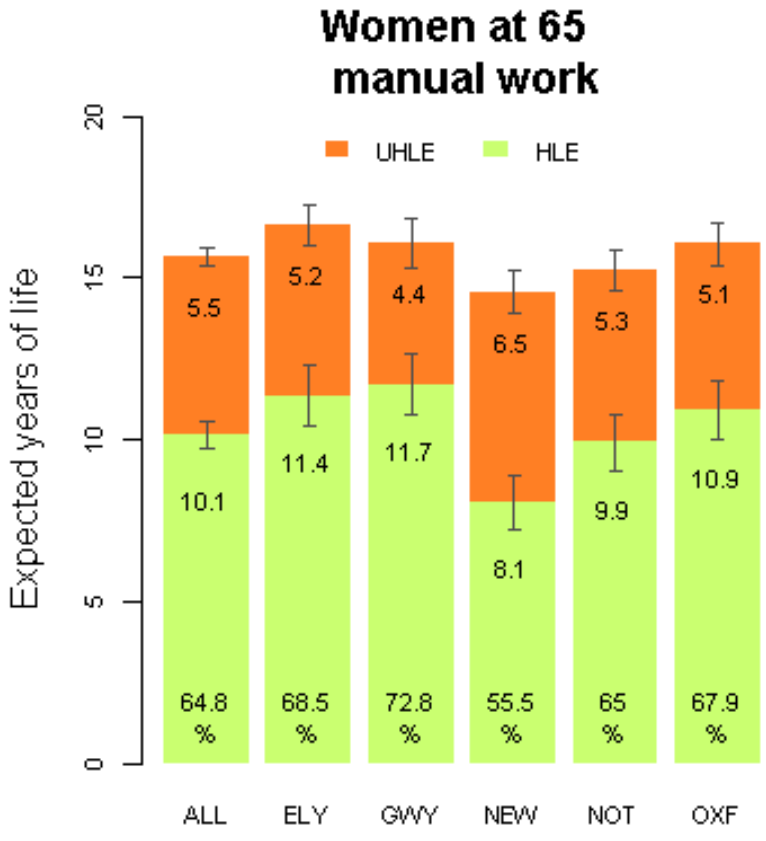


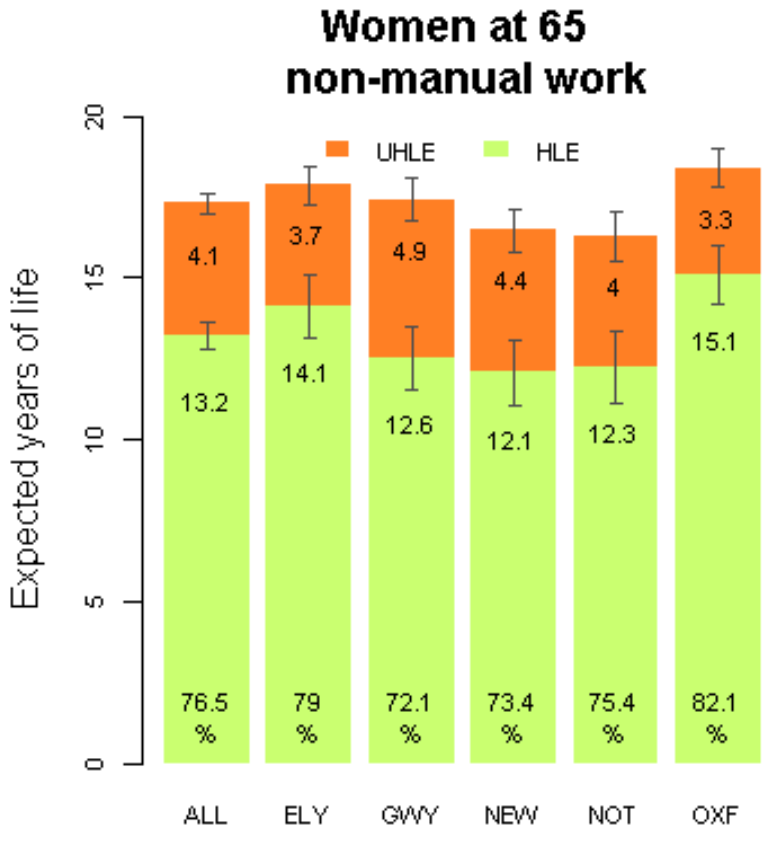
Years lived healthy and unhealthy



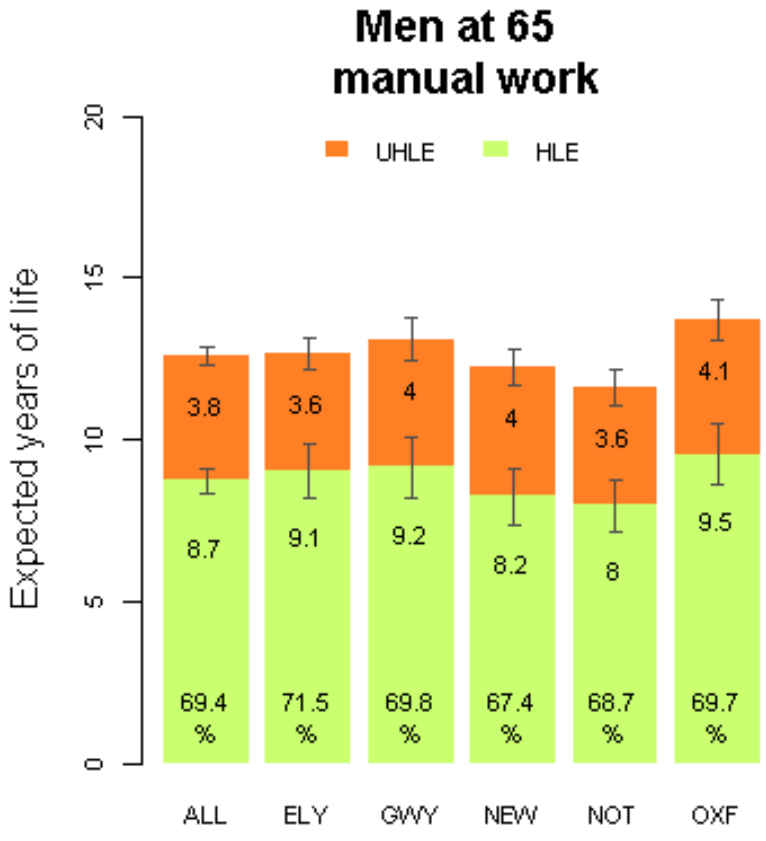


Years lived healthy and unhealthy





Years lived healthy and unhealthy



Findings, conclusion and discussion 1

Do education and/or social class explain variation between centres

Gender	Health	0-9 Edu	10+ Edu	Man	Non-man
Women	DFLE	NO	NO	NO	NO
*	HLE	NO	NO	NO	NO
Men	DFLE	NO	YES	NO	YES
*	HLE	Just	YES	NO?	YES

Findings, conclusion and discussion 1

Neither social class nor education fully explain variation in DFLE / HLE between centres for women

Variation in DFLE in women with 0-9 years of education larger than in total population

Education increases LE, but does not reduce time spend with ADL/IADL.

That is, women with higher education can expect to spend a higher proportion of their life without ADL/IADL

- Lower education is known to be associated with
  - Lower life expectancy
  - Lower HLE
  - Greater prevalence of some diseases and less of others

Findings, conclusion and discussion 2

JECH Online First, published on June 6, 2014 as 10.1136/jech-2014-204083

Research report

OPEN ACCESS

Drivers of inequality in disability-free expectancy at birth and age 85 across space and time in Great Britain

Pia Wohland,[1] Phil Rees,[2] Clare Gillies,[3] Seraphim Alvanides,[4] Fiona E Matthews,[5] Vikki O'Neill,[5] Carol Jagger[1]

Unemployment rate and social class compostion explained more of variation in men than in women *Similar here*

More variation in men *Opposite to here*

Need to look at other variables

Area deprivation?

Findings, conclusion and discussion 3

At age 65

Women spend more time with an activity limitation but less time unhealthy.

Men spend less time with activity limitation but more time unhealthy.

Do women feel more of a limitation of what they can do?

Question too gender specific?

Findings, conclusion and discussion 4

The curious case of Gwynedd

Area with most time spend with activity limitation,but has comparable high HLE

Women with higher education spend more time with ADL/IADL limitation than women with less education

Men with low education have one of the highest LE in the low education group

Environment?

THANKS

Social Class

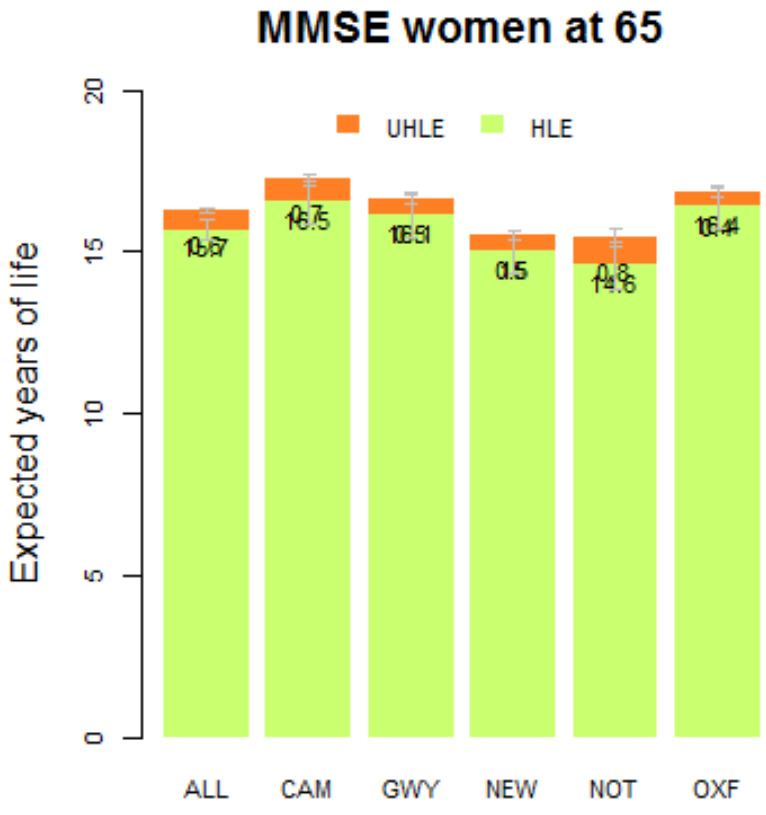
Social Class/Employment

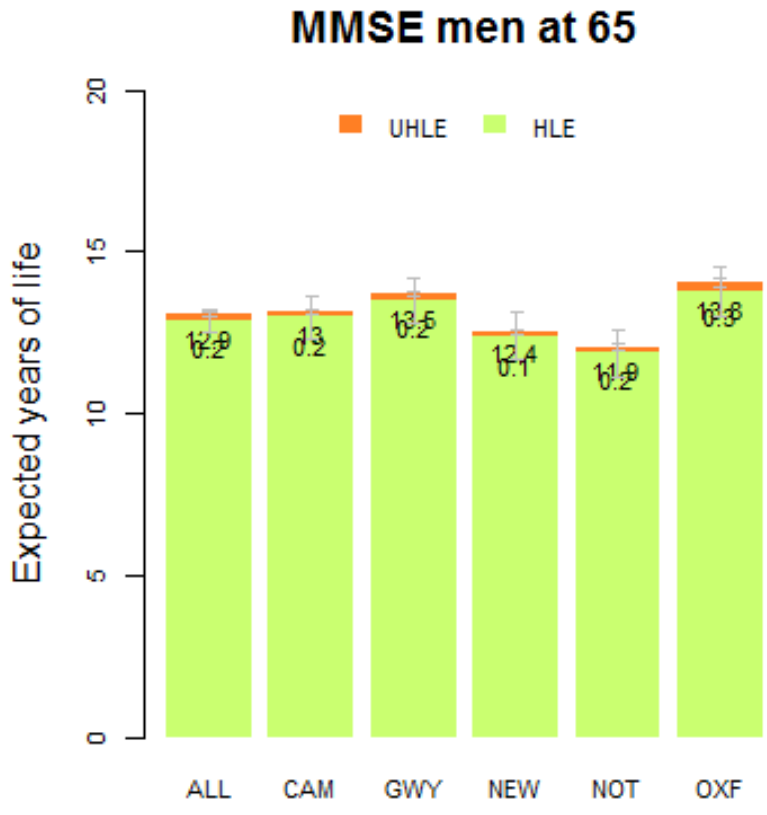
Occupations were coded according to the Registrar General's occupation-based social class divisions using Computer Assisted Standard Occupational Classification software (HMSO Publications Centre, London) . For social class based on occupation (class90) women were categorized based on their partner's occupation unless they were divorced or single, in which case they were assigned a social class based on their own occupation. Social class I denotes professionals, II managerial and technical workers, III Non-Manual (IIINM) non-manual skilled workers, III Manual (IIIM) manual skilled workers, IV partly skilled workers, and V unskilled manual workers. These are coded 00, 10, 20, 31, 32, 40, 50 respectively with 60 for armed forces and 00 for missing.

We also have socio-economic group (seg90), standard occupational classification (soc) and employment status (estatus) which ranges from 1-7 with 0 meaning missing.

All were calculated using baseline data.

MMSE at age 65 by centre, men and women





Health expectancies