

# The Health of Older People in Places (HOPE) project



**Dr Emily T. Murray**

Department of Epidemiology and Public Health, UCL  
With Nicola Shelton, Jenny Head and Paul Norman

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# Background

- Increasing life expectancy = governments encouraging people to remain in work longer (e.g. increasing state pension age)
- BUT there are Inequalities in employment at older ages (esp. by health)
- Previously, we found that approximately a quarter of men and a fifth of women retired for negative reasons before State Pension age (MRC 1946 birth cohort)
- A large % of negative reasons were cohort members own health or partner's health
- Context matters: Local unemployment or changing levels of local unemployment

# Aims & objectives:

**Overall aim:** To identify what **concepts and metrics of health** are appropriate in trying to measure the health of an older population in a given place...particularly in relation to **work-exit outcomes**.

1. **Scoping review:** explore which concepts and metrics of health are appropriate to measure the health of older population in a given place.
2. **Quantitative analysis:** associations between place-level health indicators & work-exit social/economic outcomes:

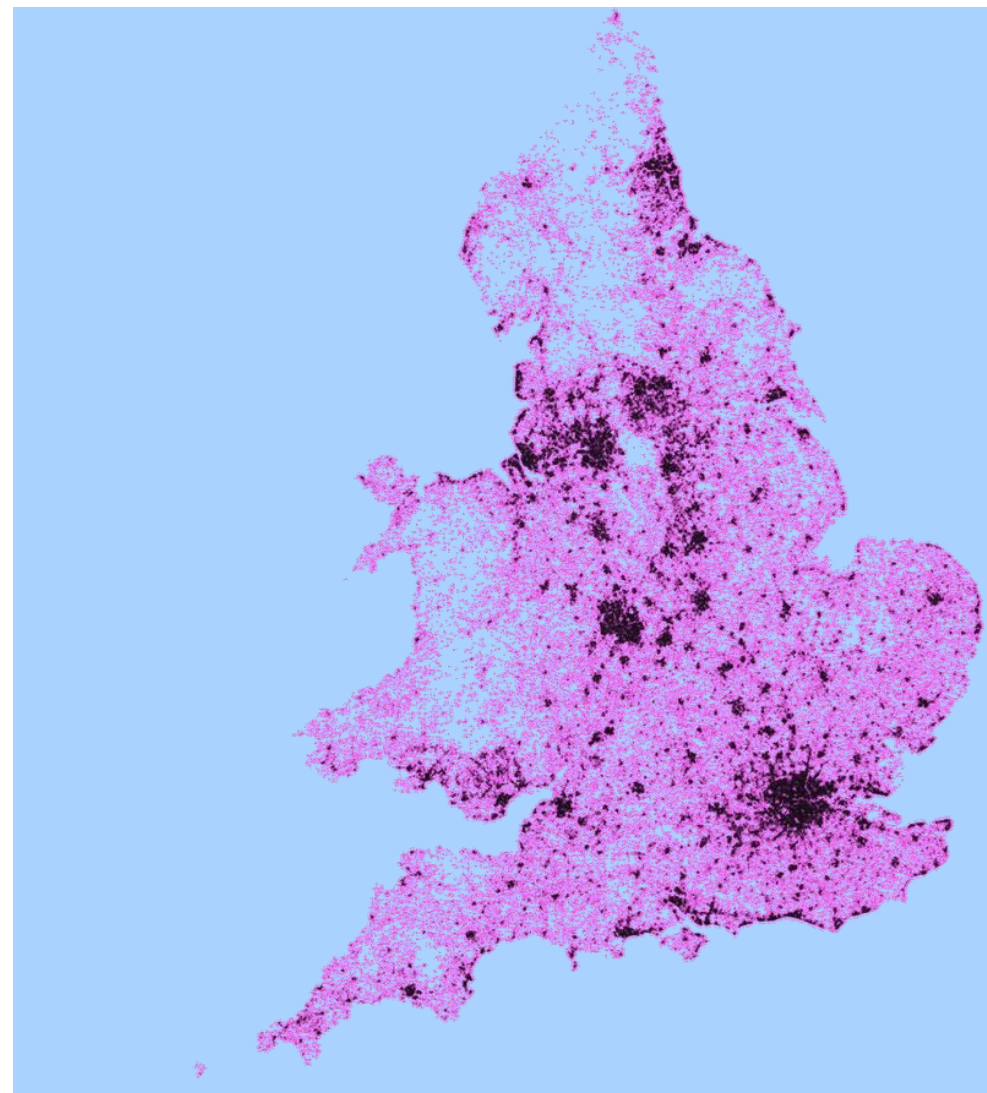
# Aims & objectives:

**2. Quantitative analysis:** associations between place-level health indicators & work-exit social/economic outcomes:

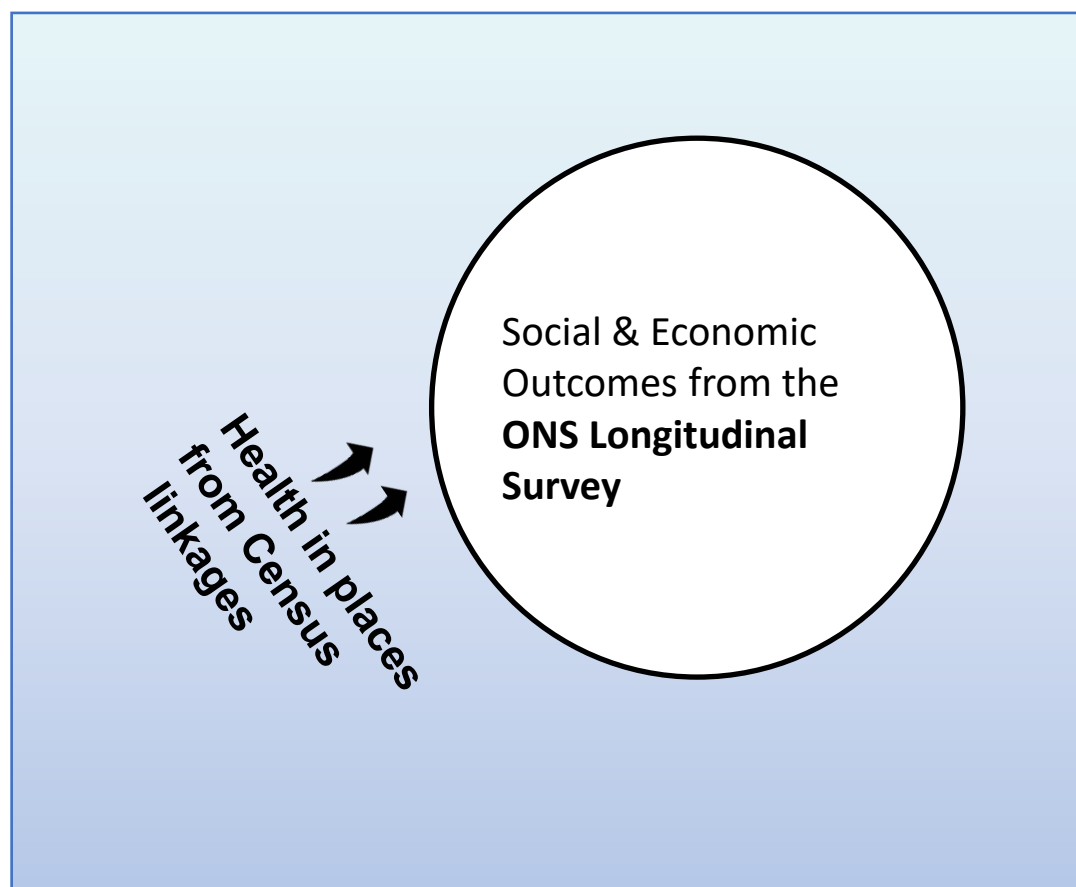
- a) Differences in associations by health indicators?
- b) Differences by geographic scale?
- c) Does change in place-level health = change in social/economic outcomes?
- d) Are relationships consistent across places?

# The ONS Longitudinal Study

- Based on the England and Wales censuses
- Started with the 1971 census and then individuals followed up in subsequent censuses
- Random selection based on 4 birthdays - a 1% sample of the population
- More people added from each census if their birthday is one of the 4 birthdates
- All census topics available
- Large sample → subgroup analyses
- Linked to births, deaths & cancer registrations



## RQ2-5: Quantitative analyses using the ONS Longitudinal Study

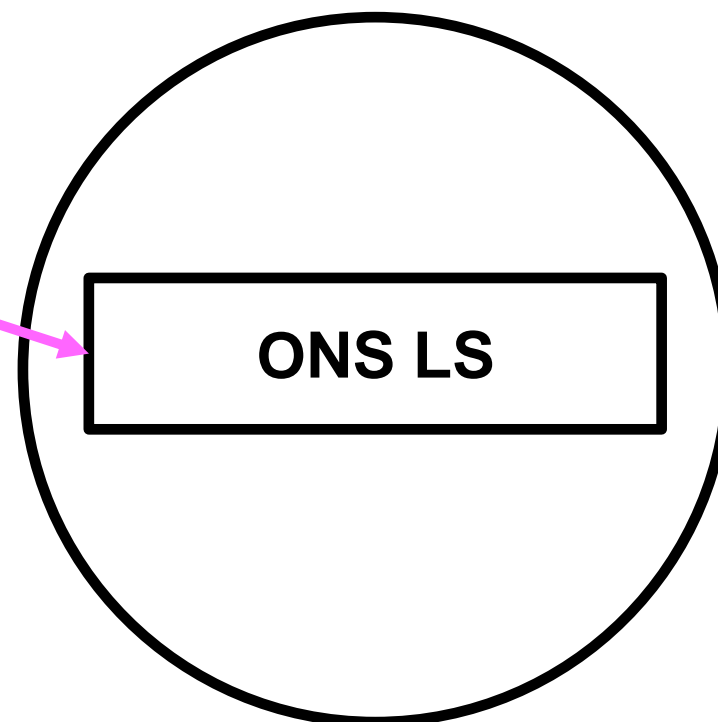


- **Cross-sectional: 2011 census only.**
- **Two samples:**
  - Adult population (ages 16-74).
  - Older person's in places (ages 50-74)

# Economic & Social outcomes:

## Work-related outcomes (older persons & all adults):

- Work status
- Economically active
- Occupational groupings
- Caring responsibilities
- Age stopped working

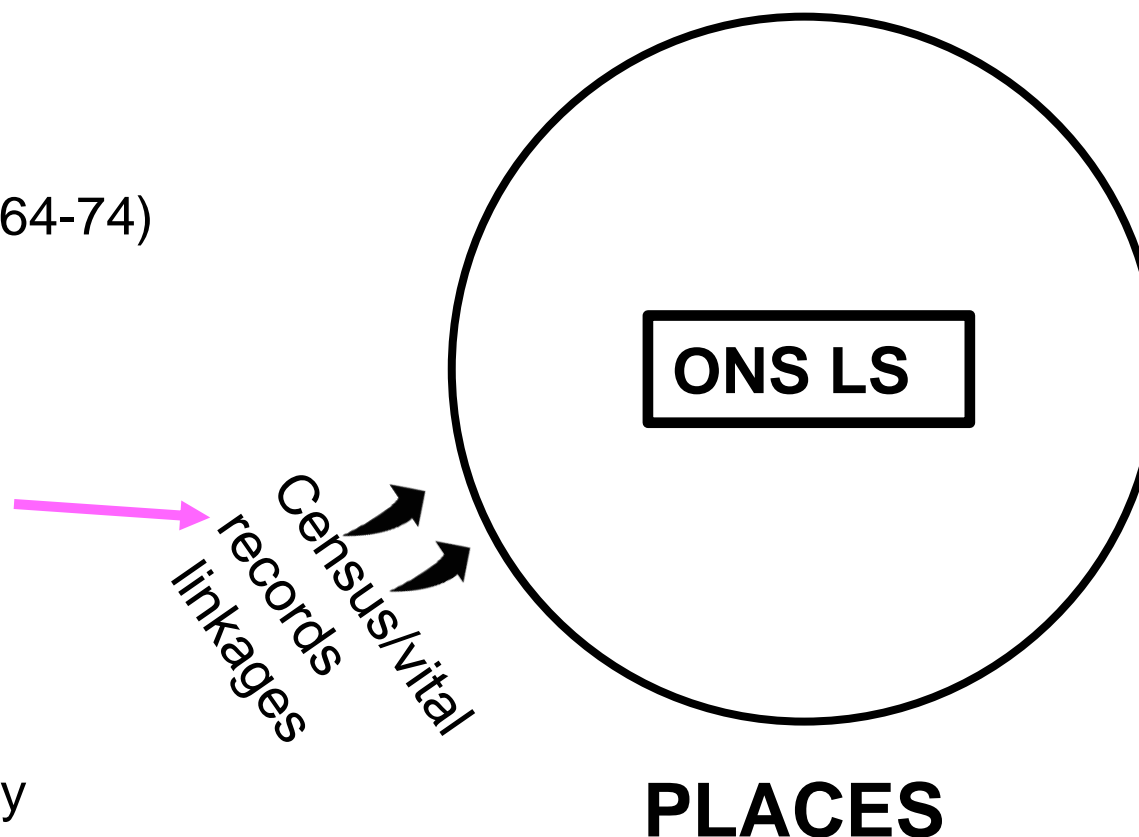


# Exposure: Health in Place indicators

**Older people in the 2011 census/vital records:**

**Ages 50-74** (sensitivity 50-64 & 64-74)

- Self-rated general health
- Long-term illness
- All-cause mortality
- Premature mortality
- Life Expectancy at birth
- Life Expectancy at 50 years
- Healthy life expectancy
- Disability-free Life Expectancy
- Infant Mortality Rate



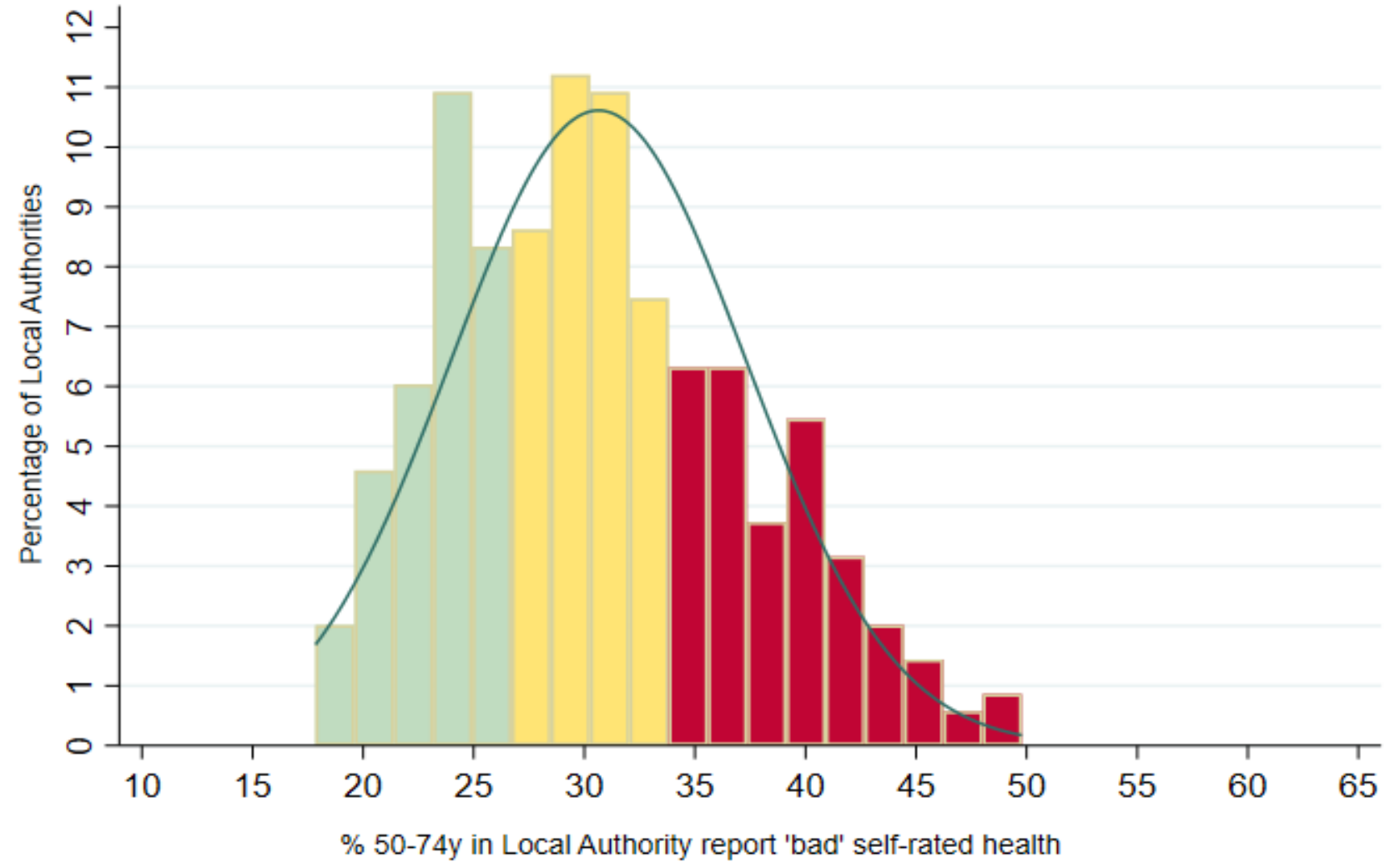


# Methods

- **Generalized structural equation modelling**, with a random intercept at local authority level,
- was used to assess **associations** between nine ~2011 health-in-a place indicators (six measures for age 50-74y only)
- and the **odds of self-identifying as one of the work categories**.
- Models **adjusted** for individual self-rated health and,
- tested for whether associations **varied by gender and age category** (16-49 vs 50-74 years).
- Finally, produced **predicted probabilities** of work categories with margins.

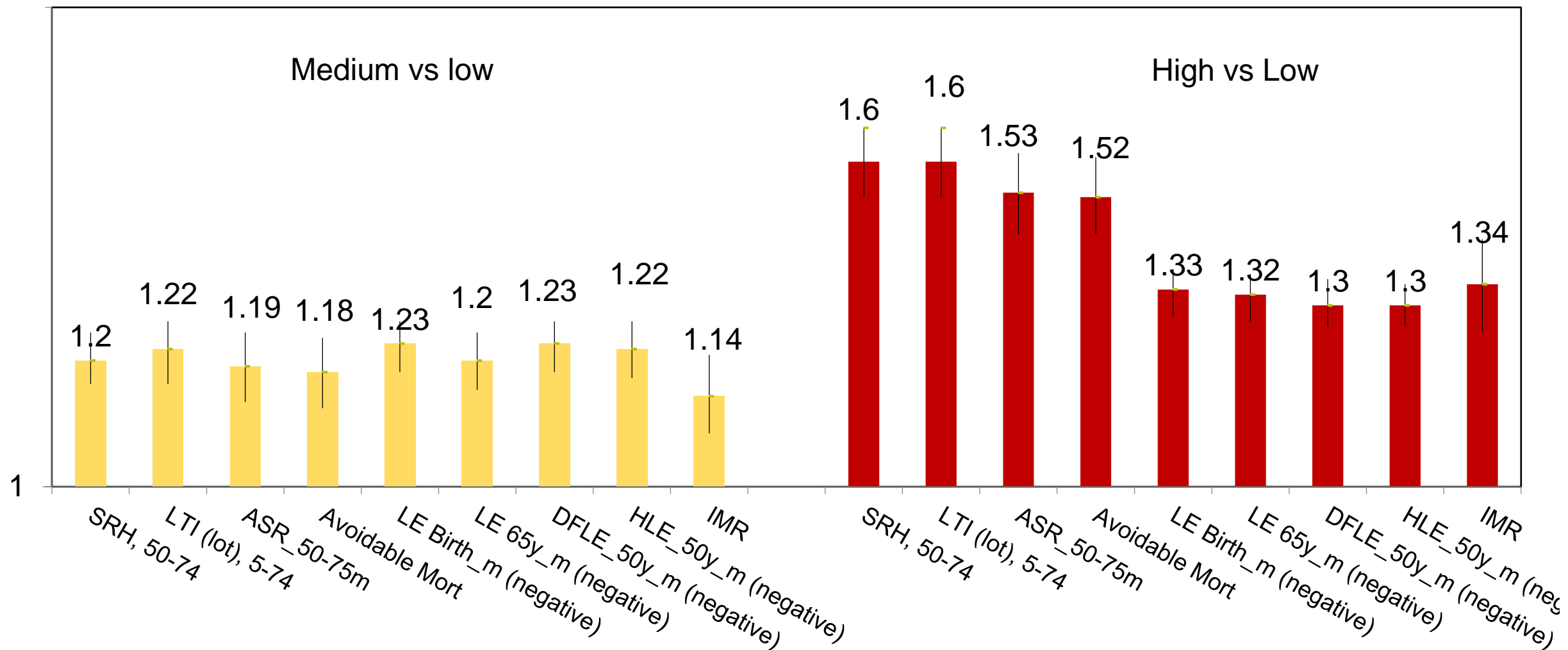
**Exposure:  
Health in  
Place  
indicators**

**Figure 1.** Histogram of 'bad' self-rated health for local authorities in England and Wales, 2011 (n=348 local authorities)

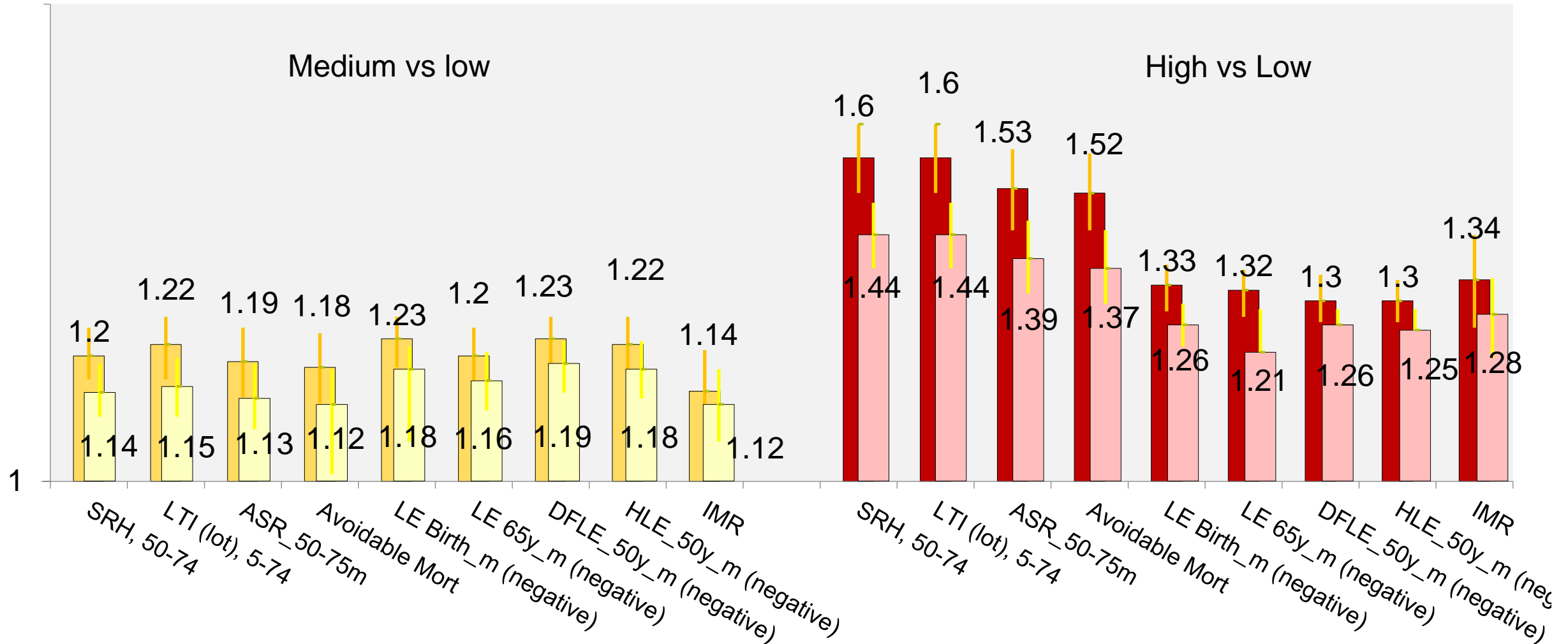


Source: 2011 Censuses, England and Wales

**Figure 2.** Age-Adjusted odds of **not being in paid work** (ref=in paid work), by % LAD health indicator tercile (reference = low tercile), ONS Longitudinal Study 16-74yrs (n=430,377)

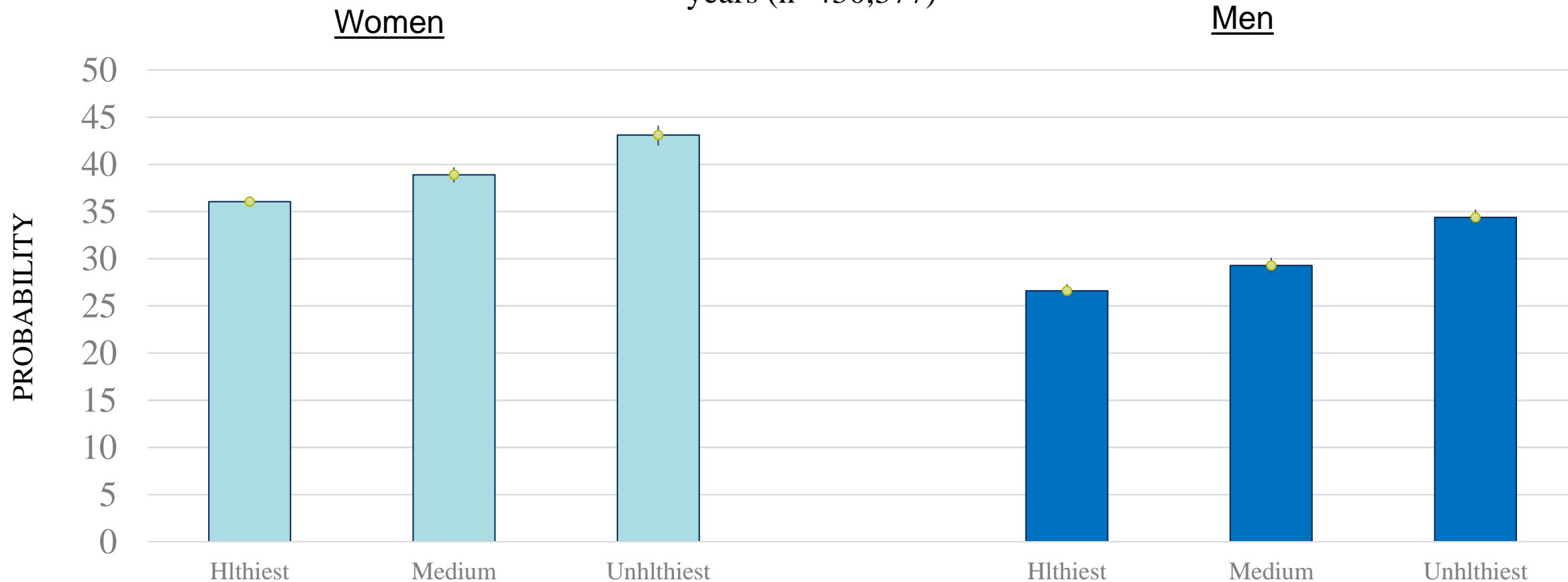


**Figure 3.** Adjusted\* odds of **not being in paid work** (ref=in paid work), by % LAD health indicator tercile (reference = low tercile), ONS Longitudinal Study 16-74yrs (n=430,377)



\* Adjusted for age (dark red) and additionally individual self-rated health (pink)

Figure 4. Probability of not being in paid work in 2011, by 2011 Local Authority level long-term illness 50-74 yrs (a lot) (LTIlo\_a) tertile and gender, ONS Longitudinal Study aged 16-74 years (n=430,377)



LOCAL AUTHORITY LTI TERTILE: WOMEN (LIGHT BLUE), MEN (DARK BLUE)

Figure 5. Probability of economic activity in 2011 by 2011 Local Authority level long-term illness 50-74 yrs (a lot) (LTIlo\_a) tertile and gender, ONS Longitudinal Study aged 16-74 years (n=430,377)

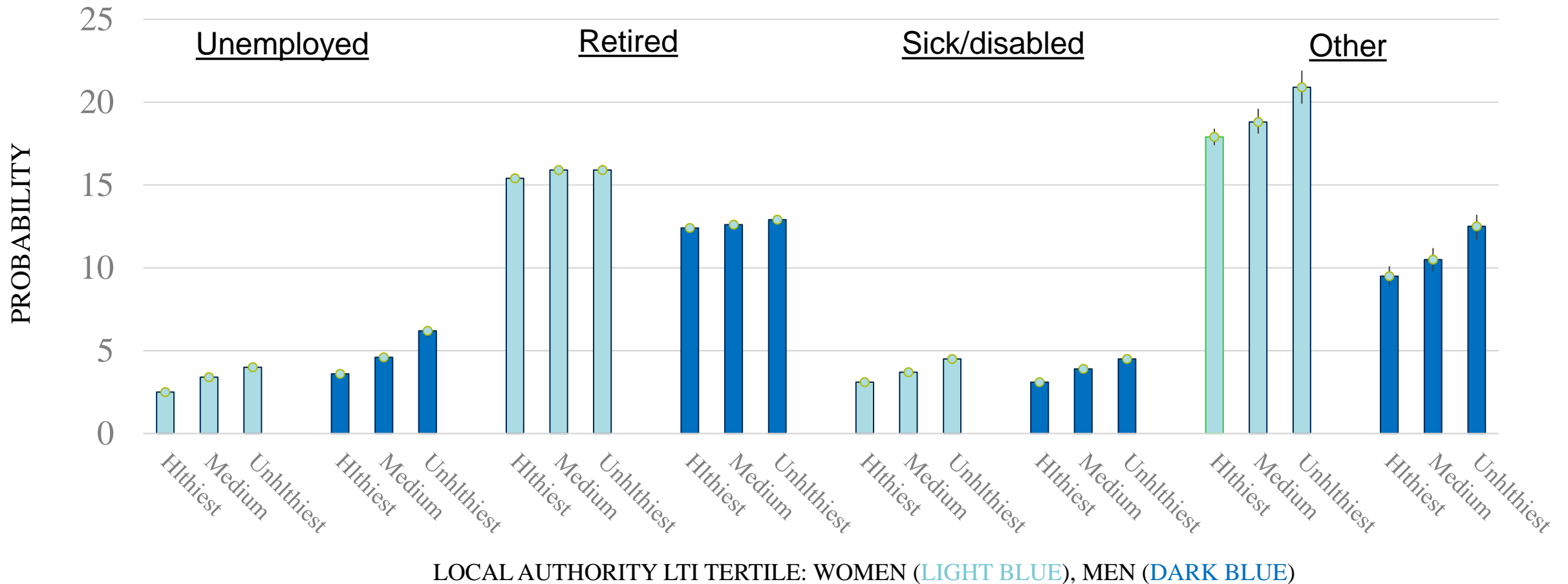
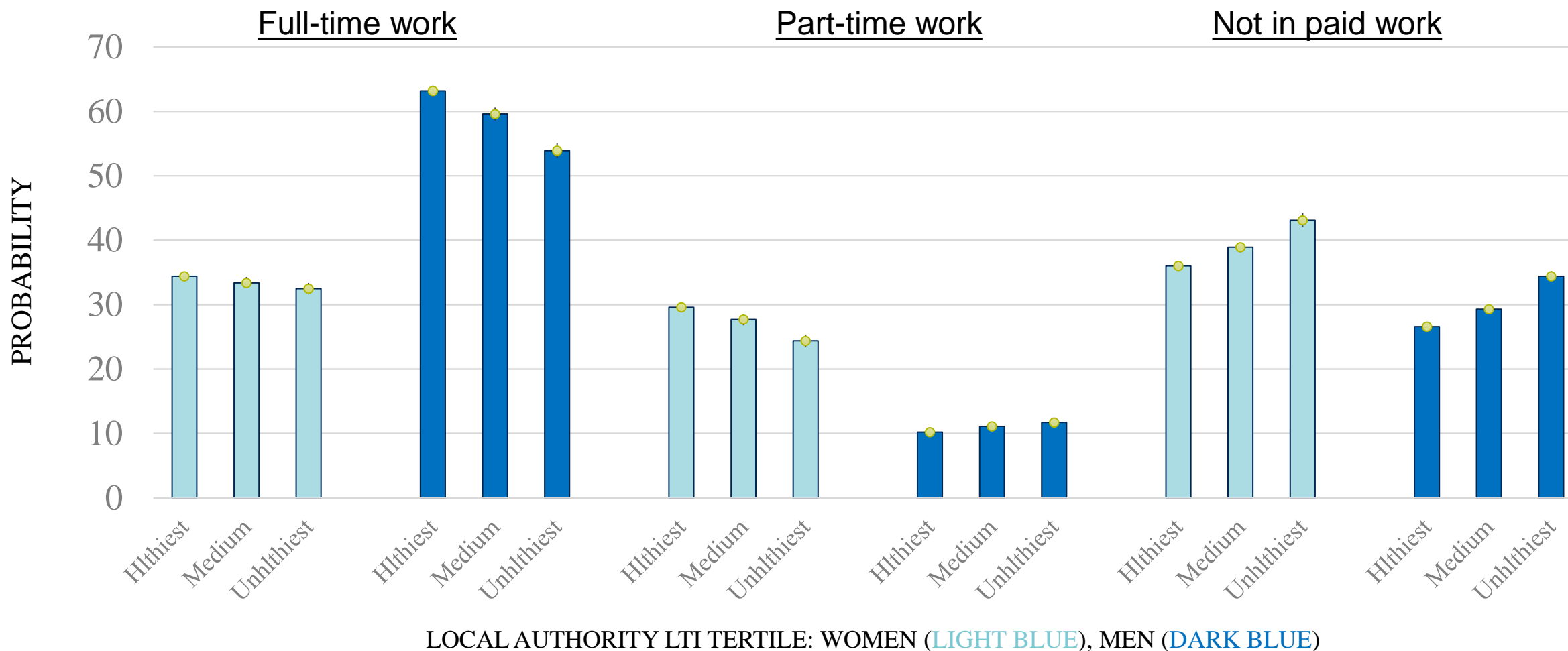
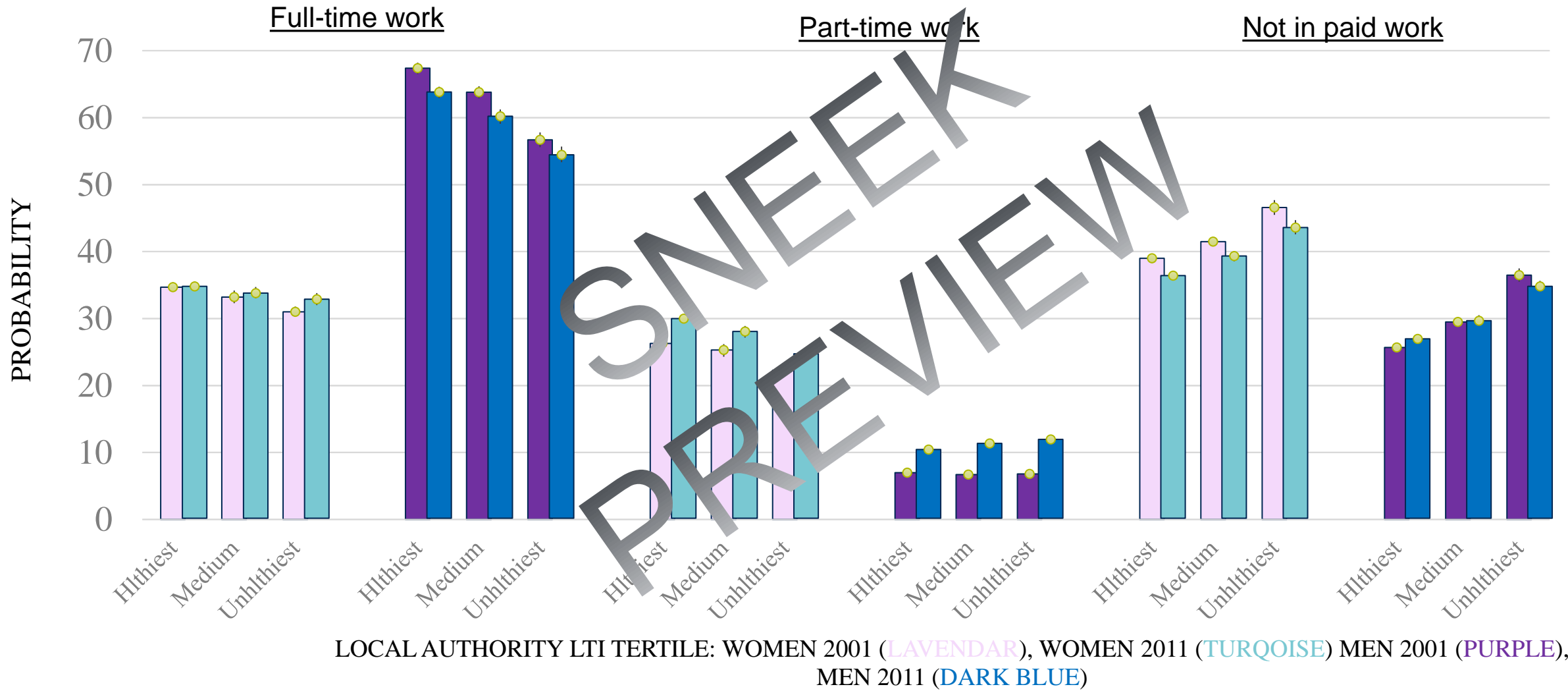


Figure 6. Probability of work time in 2011 by 2011 Local Authority level long-term illness 50-74 yrs (a lot) (LTIlo\_a) tertile and gender, ONS Longitudinal Study aged 16-74 years (n=430,377)



LOCAL AUTHORITY LTI TERTILE: WOMEN (LIGHT BLUE), MEN (DARK BLUE)

**Figure 7.** Probability of work status by Local Authority level long-term illness 50-74 yrs (a lot) (LTIlo\_a) tertile and gender, ONS Longitudinal Study aged 16-74 years (n: 2001=390,075 and 2011=430,377)



Model: Age (continuous), sex, sex\*aLTI and individual Self-rated health.

Source: ONS Longitudinal Study



# Key messages from the research

1. At a place level, health and work outcomes are linked.
2. Strengths of association between place-level health and work outcomes will depend on the health measure used.
3. Strategies to improve economic inactivity may be most effective if targeted toward local areas with high levels of people with poor health.

# THANK YOU!



Emily T Murray  
Senior Research Fellow  
PI



Jenny Head  
Prof. Medical & Social  
Statistics  
**Co-I**



Paul Norman  
Ass. Prof. Population &  
Health Geography  
**Co-I**



Nicola Shelton  
Prof. Population Health  
Director of CeLSIUS  
**Co-I**



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