The Health of Older People in Places (HOPE) project

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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)

Source: ONS Longitudinal Study
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)

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

Source: ONS Longitudinal Study
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)

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

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

Full-time work  Part-time work  Not in paid work

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

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

Source: ONS Longitudinal Study
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)

Full-time work

Part-time work

Not in paid work

LOCAL AUTHORITY LTI TERTILE: WOMEN 2001 (LAVENDER), WOMEN 2011 (TURQUOISE) MEN 2001 (PURPLE), MEN 2011 (DARK BLUE)

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!

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