Does the level of wealth inequality in an area influence the health of older people?

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Introduction

Social and spatial wealth inequalities appear to be widening in the UK and it is claimed that living in an unequal society may be harmful to health. In this evaluate two hypotheses about area wealth inequality and health for the older population in England:

Wealth inequality hypothesis – is the level of wealth inequality within an area associated with health outcomes amongst the older population?

Relative wealth hypothesis - is the level of wealth within an area associated with health outcomes amongst the older population

The hypothesis that the greater the level of income or wealth inequality within a society the less well that society performs according to a range of social indicators, including health outcomes, is an important research theme that has attracted a great deal of debate within academic, policy and media circles. Three theories have been proposed for why inequality might lead to worse health:

1. Stresses associated with social comparisons are drivers of poor health.
2. Inequality leads to less cohesive societies which are damaging to health.
3. Inequality contributes to an environment in which there is less support for public spending on education, health and other services which lead to poorer population health outcomes

Although the wealth inequality hypothesis was originally developed to explain differences in health *between* countries, researchers have attempted to assess the extent to which the inequality hypothesis holds *within* countries. Results are mixed; a review of international studies suggests that the income inequality hypothesis is most salient for larger geographical areas and in countries with higher levels of sub-

national inequality such as the USA (Subramanian and Kawachi, 2004). Findings are thought to be influenced by the health measure under investigation as well as methodological factors such as the control variables that are included or whether a single or multilevel model is used (Wilkinson and Pickett, 2006).

In light of the existing research we aim to make four contributions. First, we examine the wealth income hypothesis for a particular population group, namely the older population. We speculate that older people might be more involved with their local area and susceptible to the harmful effects of area inequality because they may have lived in an area longer, they may well make more use of health and care services and, particularly if retired, are likely to spend more time day-to-day with their locality than younger people.

Second, we use house price sales as a measure of area inequality rather than the more commonly used indicator of income. This is a valuable contribution because for many people, and particularly older people, property is a major financial asset. House prices are a particularly stark and visible form of wealth inequality in the UK across regions and also neighbourhoods where factors such as demand for housing close to desirable schools have exacerbated divisions.

Third, we evaluate the wealth inequality hypothesis at finer geographical areas within England than in previous research. We assess whether the level of area inequality influences health for Middle Super Output Areas (average population 8,000), Districts (average population 120,000) and Government Office Regions (nine in the England).

Fourth, we recognise the complexity of health as a concept by considering whether area inequality is associated with different measures of health including a self-assessed measure of limiting long term illness, depression and a timed walk.

Data

We use data from the first wave of the English Longitudinal Study of Ageing (http://www.esds.ac.uk/longitudinal/access/elsa/l5050.asp), a panel survey of adults aged over 50 in 2002 containing a range of topics necessary to understand the economic, social, psychological and health elements of the ageing process. We have a

special version of this dataset that includes an indicator of the Middle Super Output Area of residence for each respondent which is not available in standard deposited data. We are grateful to Natcen for providing this data.

Additionally we use data on the distribution of house prices (2nd, 25th, 50th, 75th and 98th percentiles of house price sales) taken from the Office for National Statistics Neighbourhood Statistics website to estimate gini coefficients for each of the geographies under investigation (Middle Super Output Area, Districts and Regions). We also use the Indices of Multiple Deprivation (2004) to provide a measure of the level of deprivation within each area.

Methods

We fit separate models to predict each of the three health indicators; self-assessed limiting long term illness, a timed walk (of 8 feet) and depression (measured using the ces-d depression scale) at the three geographical scales (Middle Super Output Area, District and Region). In each case we fit a random intercept multilevel model where individuals are nested within area (Middle Super Output Area, District or Region). The models include individual characteristics (quintiles of household wealth excluding pensions, education, economic activity, ethnicity and living arrangements) that were significantly associated with the three health measures and area deprivation (Indices of Multiple Deprivation 2004). Finally, the models included an area inequality variable (quintiles of gini coefficients) to test the wealth inequality hypothesis and an area wealth variable (quintiles of median house price) to test the relative wealth hypothesis.

Results

Individual wealth

For each of the health indicators, individual wealth (as measured through quintiles of household wealth excluding pensions) is a key predictor with a strong health gradient in evidence across the wealth distribution with the poorest having highest odds of poor health (see figure 1)

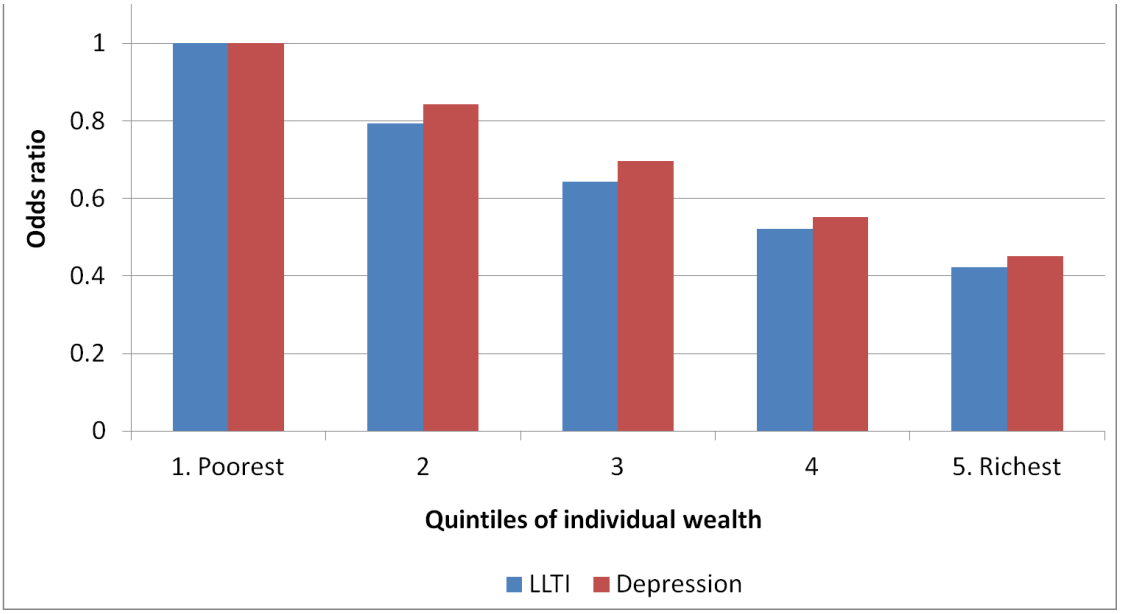

Figure 1: Odds ratios of limiting long term illness and depression across quintiles of individual wealth (the poorest quintile is the reference category)

Area inequality

After controlling for individual characteristics, area deprivation and area median house price we found higher risks of (self-assessed) limiting long term illness in more unequal Regions (not shown here). In contrast, levels of depression were lower outside the most equal areas for Middle Super Output Areas and Districts although this finding did not reach statistical significance in all the quintiles of area inequality (see figure 2). There was no evidence of any effect of area inequality at any of the geographical scales for the timed walk (Not shown here).

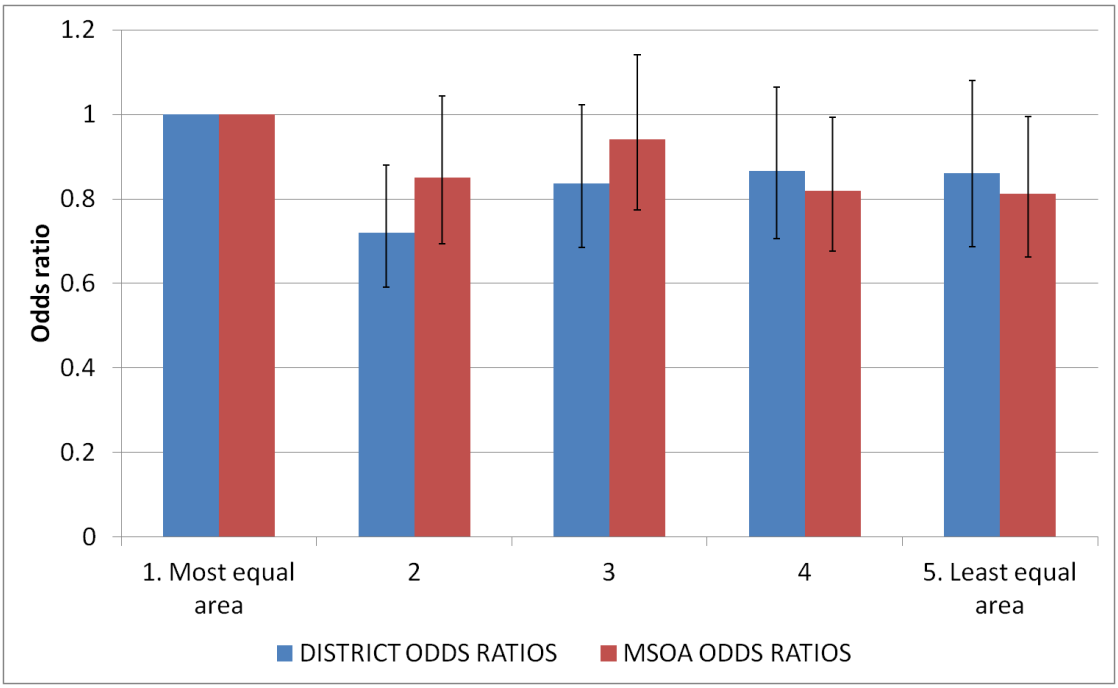

Figure 2: Odds ratios of depression across quintiles of area inequality (the reference category is the most equal quintile of areas)

Area wealth

We found lower levels of limiting long term illness outside the areas with the cheapest housing for both Middle Super Output Areas and Districts (see figure 3). Unlike the results for individual wealth we did not observe a health gradient across the area wealth distribution for limiting long term illness. There was no significant association between area wealth and the timed walk or depression at any of the geographical scales (not shown here).

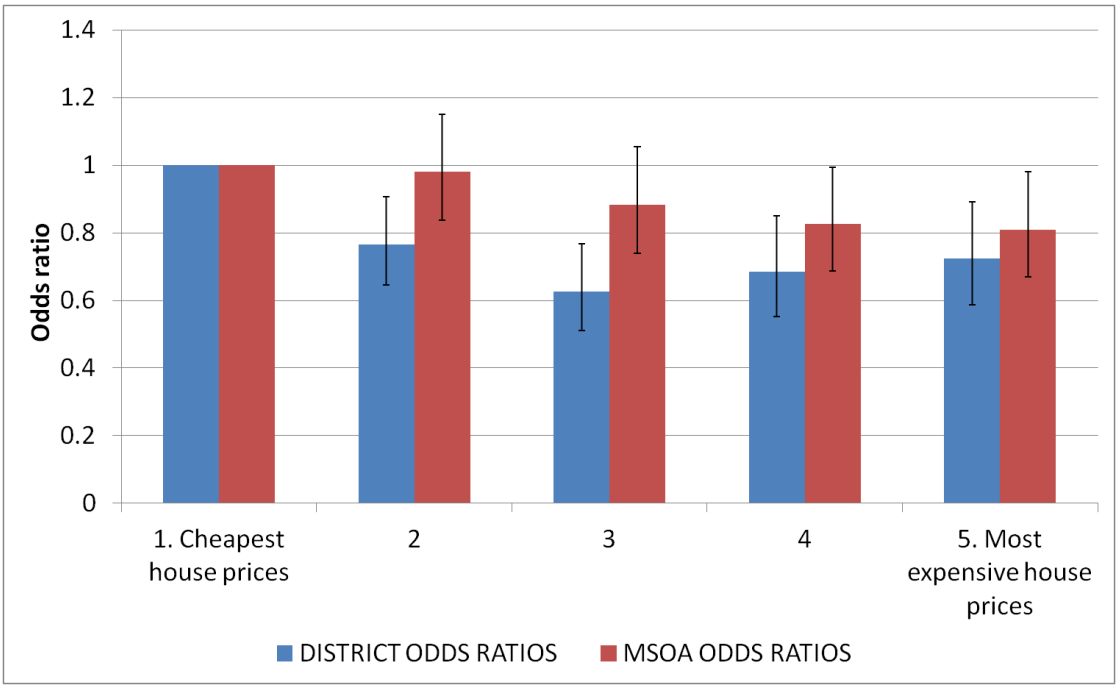

Figure 3: Odds ratios of limiting long term illness across quintiles of area median house price (the reference category is the cheapest quintile of area house prices)

Conclusions

Comparison of our findings with other research on area inequality suggests that older people are not particularly more susceptible to the potential health damaging effects of area inequality compared to the overall population.

Our alternative measure of area wealth inequality (based on house prices) do not give very different findings to research using income based measures of area inequality. For example, like Weich et al. (2002), we find evidence of higher levels of self-assessed illness in more unequal regions. We find lower levels of self assessed illness in the more wealthy districts, a result also noted by Craig (2005).

Findings vary according to the size of the area under investigation. Although Subramanian and Kawachi (2004) report that the income inequality hypothesis is most salient at larger geographical areas we find a significant association between depression and area inequality for Middle Super Output Areas and Districts but not Regions.

Similarly, findings vary according to the health measure. Whilst inequality is

considered to be bad for health in the original wealth inequality hypothesis, our findings show a protective effect of inequality for depression particularly amongst richer individuals. Weich et al. (2001) report a similar finding for common mental disorders amongst those with the lowest incomes.

We cannot from this research claim causation between the various health outcomes and area inequality and housing wealth. However, we do provide evidence that, potentially at least, area inequality and area wealth may be related to self-assessed illness and depression amongst older people independently of individual characteristics and area deprivation.

Current research outputs from this strand

Marshall, A., Nazroo, J., Tampubolon, G. (2012) *Inequalities in the impact of retirement on health in the United Kingdom*. Canadian Association on Gerontology Conference. Vancouver. October 18th-20th