Using census microdata to explore the inter-relationships between ethnicity, health, socioeconomic factors and internal migration

Census Applications: Using the UK's population census data
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Context and Research Intent

- Increasing **ethnic diversity** and **persisting ethnic inequalities in health**: widely observed, not fully understood

- Ethnic inequalities in health represent a ‘significant gap in current evidence and policy’ (Nazroo, 2014)

- Selective sorting between area-types and social classes may explain changing overall and **ethnic** health gradients

- Opportunities for and propensity to migrate or for social mobility vary by health status, **socioeconomic status**, area and **ethnicity**

Aims: explore **nature** of ethnic inequalities in health, and possible explanations for changing ethnic health gradients

**Cross-sectional SARS**

- Explore ethnic patterns of internal migration by health status and socioeconomic attribute and extent of social and spatial inequality between ethnic groups in England (not shown)

- Explore influence of migrant status and socioeconomic attributes on health inequalities between ethnic groups (logistic regression)

**Longitudinal ONS LS**

- Analyse health status by transition category (between social classes and deprivation quintiles) for **movers** and **stayers** by ethnic group
Selective sorting and health gradients: why does it matter?

Area A
- Lower social classes
- Overcrowding
- Less green space
- High unemployment
- Poorer health
- Social mobility?

Area B
- Higher social classes
- More sparsely populated
- More green space
- Low unemployment
- Better health
- Variations by ethnicity?
### Probability of LLTI: adjusting for demographic and socioeconomic attributes, migrant status and an interaction between migrant status and housing tenure

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Non-migrant SC I&amp;II</td>
<td>2.5%</td>
<td>2.8%</td>
<td>1.6%</td>
<td>3.2%</td>
<td>3.2%</td>
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<td>3.2%</td>
<td>3.4%</td>
<td>1.9%</td>
<td>4.1%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Migrant SC I&amp;II</td>
<td>2.3%</td>
<td>2.6%</td>
<td>1.5%</td>
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<tr>
<td>Non-migrant SC IV&amp;V</td>
<td>3.7%</td>
<td>4.1%</td>
<td>2.4%</td>
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- Migrants always have a lower probability of LLTI than non-migrants
- Lower social classes have higher probability of LLTI than higher social classes
- Black Africans = lowest probability of LLTI, South Asian groups = highest probability of LLTI
- Additional difference between ethnic groups not explained by social class, tenure and education – income? Wealth?

Source: SARs
## Predicted probabilities (LLTI): age-specific

<table>
<thead>
<tr>
<th>Socioeconomic and migrant status</th>
<th>Ethnicity</th>
<th>Probability of LLTI (2001)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>16-29</td>
</tr>
<tr>
<td>Migrant, social classes I &amp; II</td>
<td>White</td>
<td>3.3%</td>
</tr>
<tr>
<td></td>
<td>Indian</td>
<td>2.6%</td>
</tr>
<tr>
<td></td>
<td>Pakistani &amp; Bangladeshi</td>
<td>2.9%</td>
</tr>
<tr>
<td>Migrant, social classes IV &amp; V</td>
<td>White</td>
<td>5.4%</td>
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</table>

Source: SARs
Evidence that selective sorting widens health gradients

<table>
<thead>
<tr>
<th>RII</th>
<th>91-01</th>
<th>01-11</th>
<th>91-01 (MEG)</th>
<th>01-11 (MEG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>By destination deprivation: with mobility</td>
<td>1.23</td>
<td>1.23&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.81</td>
<td>1.15</td>
</tr>
<tr>
<td>By origin deprivation: putting people back</td>
<td>1.03</td>
<td>1.10&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.63</td>
<td>1.11</td>
</tr>
<tr>
<td>Stable groups</td>
<td>1.37</td>
<td>1.56</td>
<td>0.72</td>
<td>1.17</td>
</tr>
</tbody>
</table>

<sup>a</sup>2001-2011: Destination deprivation

<sup>b</sup>2001-2011: Origin deprivation

Source: ONS LS
Widening health gradients? The patterning of health

Transitions into and out of Q1 or I & II

Transitions into and out of Q5 or IV & V

Most advantaged → Into most advantaged → Out of most advantaged

Out of least advantaged → Into least advantaged → Least advantaged

Quintile 1 (least deprived)
Social classes I & II

Quintile 5 (most deprived)
Social classes IV & V

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Changing overall health gradients (deprivation)

**Movers**

- Deprivation quintile between 1991 and 2001
- SIRs for non-migrants

**Stayers**

- Deprivation quintile between 1991 and 2001
- SIRs for non-migrants

Movers and Stayers for migrants and non-migrants, showing changes in health gradients (deprivation) over time.
Changing *ethnic* health gradients (social class)

**Movers**

**INDIANS**

**Stayers**

**PAKISTANIS & BANGLADESHIS**

**Social classes between 2001 and 2011**

**SIRs for Indian migrants**

**SIRs for Indian non-migrants**

**SIRs for Pakistani & Bangladeshi migrants**

**SIRs for Pakistani & Bangladeshi non-migrants**
Conclusions

- Health varies between ethnic groups: *(dis)advantage differently rewarding for different ethnic groups*; inequalities between ethnic groups appear to open up in older ages.
- Variations in relationship between social class, migrant status and health by ethnic group: differences in selective sorting?
- Trajectories of selective sorting also likely influenced by different socioeconomic and spatial experiences of different ethnic groups.
- Selective sorting contributing to *widening overall health gradients*, but *stronger influence on ethnic health gradients through social mobility*.

- Implications of a less mobile minority population?
- Further work has shown: *Indians and Pakistanis and Bangladeshis* always lowest *probabilities of moving*: particularly when in less advantaged circumstances and in poorer health.

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**White Rose**

Social Science DTC

Universities of Leeds, Sheffield & York

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Thank you

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