USING CENSUS MICRODATA TO EXPLORE THE INTER-RELATIONSHIPS BETWEEN ETHNICITY, HEALTH, SOCIOECONOMIC FACTORS & INTERNAL MIGRATION

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‘SIGNIFICANT GAP IN CURRENT EVIDENCE AND POLICY’

Rate ratio of SIRs (limiting long-term illness) for ethnic minority groups relative to White (91) and White British (01/11)

Source: Darlington-Pollock and Norman, 2017
COMPLEX INTER-RELATIONSHIPS

- Majority of migrants are young & relatively healthy
- Some people may / may not move because of their health
- A migrant’s health may be affected by the process
- Migrants may spread disease

HEALTH

- Gradient of health status along deprivation gradient
- Healthy people live in less deprived locations & vice versa

DEPRIVATION

- More advantaged people tend to migrate to or between less deprived, more attractive locations
- Less advantaged people tend to drift into (or be trapped in) more deprived locations
SELECTIVE SORTING AND CHANGING HEALTH GRADIENTS

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

- Differences in health between migrants and non-migrants?
- Differences in health between the migratory flows?
- Size of the migratory flows?
- Health of those ‘left behind’?
- Demographic and socioeconomic attributes of migrants and non-migrants?

Area B
- Higher social classes
- More sparsely populated
- More green space
- Low unemployment
- Better health
WHAT CAN WE ASK OF CENSUS MICRODATA?

- Does selective sorting appear to operate differently for different ethnic groups?

- Can selective sorting contribute to changing ethnic health gradients?

Cross-sectional Samples of Anonymised Records

- Are different ethnic groups comparably mobile?

- Does the relationship between health and migration hold across ethnic groups and by age?

ONS Longitudinal Study

- What is the patterning to health of differently mobile groups?

- How does the movement of differently mobile groups influence overall health gradients?
## CROSS-SECTIONAL & LONGITUDINAL CENSUS MICRODATA

<table>
<thead>
<tr>
<th></th>
<th>Samples of Anonymised Records</th>
<th>ONS Longitudinal Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>England Household Residents</td>
<td>England Household Residents</td>
</tr>
<tr>
<td>Key Variables</td>
<td>Migrants (1 year migration indicator)  LLTI Social Class</td>
<td>Migrants (10 year migration indicator)  LLTI Social Class Deprivation Quintile (Q1 – Q5) Ethnic Group Age</td>
</tr>
<tr>
<td></td>
<td>Ethnic Group Age</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td></td>
</tr>
</tbody>
</table>
COMPARABLY MOBILE?

<table>
<thead>
<tr>
<th>% of population</th>
<th>White</th>
<th>Black Caribbean</th>
<th>Black African</th>
<th>Indian</th>
<th>Pakistani &amp; Bangladeshi</th>
<th>Total Population*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stayer</td>
<td>89.4</td>
<td>90.5</td>
<td>81.9</td>
<td>88.1</td>
<td>90.2</td>
<td>88.9</td>
</tr>
<tr>
<td>Mover</td>
<td>10.6</td>
<td>9.5</td>
<td>18.1</td>
<td>11.9</td>
<td>9.8</td>
<td>11.1</td>
</tr>
</tbody>
</table>

Of Movers

<table>
<thead>
<tr>
<th>Distance</th>
<th>Short Distance</th>
<th>Mid Distance</th>
<th>Long Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stayer</td>
<td>71.8</td>
<td>21.1</td>
<td>7.2</td>
</tr>
<tr>
<td>Mover</td>
<td>79.7</td>
<td>16.7</td>
<td>4.2</td>
</tr>
<tr>
<td>Short Distance</td>
<td>76.3</td>
<td>17.1</td>
<td>6.6</td>
</tr>
<tr>
<td>Mid Distance</td>
<td>70.4</td>
<td>21.6</td>
<td>8.0</td>
</tr>
<tr>
<td>Long Distance</td>
<td>79.3</td>
<td>14.8</td>
<td>5.9</td>
</tr>
</tbody>
</table>

Source: Samples of Anonymised Records, 2011; *includes Chinese, Mixed & Other
EXPLORING THE HEALTH-MIGRATION RELATIONSHIP

Modelled Probability of LLTI by mover status, age and social class, stratified by ethnic group

- Movers in younger ages in **better health** than immobile peers
- Movers aged 75+ have **poorer health** than immobile peers
- Consistent social gradient to health across ethnic groups... but magnitude of influence varies

- MEGs aged 16-29 **better health** than White peers, but the health advantage not maintained for older ages

Source: Samples of Anonymised Records, 2011
PATTERning TO HEALTH: IMPACT ON HEALTH GRADIENTS

Quintile 5 (most deprived)
Social classes IV & V

Quintile 1 (least deprived)
Social classes I & II

Most advantaged

Into most advantaged

Out of most advantaged

Transitions into and out of Q1 or I & II

Transitions into and out of Q5 or IV & V

Out of least advantaged

Into least advantaged

Least advantaged

Widening health gradients?

Maintaining health gradients?

Narrowing health gradients?
COMPARING TRANSITIONING GROUPS: TOTAL POPULATION

Source: ONS Longitudinal Study
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Source: ONS Longitudinal Study
## Comparing Transitions: Ethnic Differences?

<table>
<thead>
<tr>
<th>SIRs</th>
<th>Total</th>
<th>Indian</th>
<th>Pakistani &amp; Bangladeshi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mover</td>
<td>Stayer</td>
<td>Total</td>
</tr>
<tr>
<td>Stable Q1</td>
<td>53.7*</td>
<td>65.4*</td>
<td>62.8*</td>
</tr>
<tr>
<td>Q2-Q4 2001 Q1 2011</td>
<td>63.6*</td>
<td>73.7*</td>
<td>67.8*</td>
</tr>
<tr>
<td>Q1 2001 Q2-Q4 2011</td>
<td>68.5*</td>
<td>70.4</td>
<td>69.3*</td>
</tr>
<tr>
<td>Stable Q2-Q4</td>
<td>83.6*</td>
<td>84.1*</td>
<td>84.0*</td>
</tr>
<tr>
<td>Q5 2001 Q1-Q4 2011</td>
<td>97.1</td>
<td>106.5*</td>
<td>100.5</td>
</tr>
<tr>
<td>Q1-Q4 2001 Q5 2011</td>
<td>113.6*</td>
<td>92.2*</td>
<td>103.4*</td>
</tr>
<tr>
<td>Stable Q5</td>
<td>131.0*</td>
<td>114.4*</td>
<td>118.0*</td>
</tr>
</tbody>
</table>

Source: ONS Longitudinal Study
### OVERALL INFLUENCE?

\[ y = 72.76x + 66.23 \]
\[ R^2 = 0.96 \]

- Increasing poor health (SIR)

\[ y = 78.36x + 63.80 \]
\[ R^2 = 0.96 \]

- Increasing deprivation

**RII Health-deprivation gradient**

<table>
<thead>
<tr>
<th>RII</th>
<th>Health-deprivation gradient</th>
<th>Health-social class gradient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Transitions</td>
<td>No Transitions</td>
</tr>
<tr>
<td>Total Population</td>
<td>2.23</td>
<td>2.10</td>
</tr>
<tr>
<td>Indian</td>
<td>2.54</td>
<td>2.37</td>
</tr>
<tr>
<td>Pakistani &amp; Bangladeshi</td>
<td>1.73</td>
<td>1.63</td>
</tr>
</tbody>
</table>

Source: ONS Longitudinal Study
CONCLUSIONS

- Opportunities for, and nature of migration events, vary between ethnic groups
- Younger migrants more likely to be in better health than older migrants
- Transitions into and out of Q1 and Q5 by movers contributes to widening health gradients between 1991-2001 and 2001-2011
- Movers churning within Q1 in *better* health than stayers who remain in Q1; movers churning within Q5 have *poorer* health than stayers who remain in Q5
- Moves between the middle classes / deprivation quintile as important as moves at the extreme
The permission of the Office for National Statistics to use the Longitudinal Study is gratefully acknowledged, as is the help provided by staff of the Centre for Longitudinal Study Information & User Support (CeLSIUS). CeLSIUS is supported by the ESRC Census of Population Programme (Award Ref: ES/K000365/1). The authors alone are responsible for the interpretation of the data.

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