Exploring reasons for different health outcomes in identically deprived post-industrial UK cities

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Topics

• Background
  – ‘excess’ mortality in Scotland and Glasgow
• Hypotheses
• Research update:
  – 3 city survey (preliminary results)
  – Other projects (and hypotheses)
• Next steps
Background

• Scotland… ‘sick man of Europe’
• Lowest life expectancy in W. Europe driven by high mortality in Glasgow and W. Central Scotland
• Traditional explanation: socio-economic deprivation (underpinned by effects of post-industrial decline)
However…

• Even when socio-economic circumstances are taken into account, there is still an ‘excess’ of poor health in Scotland

• Controlling for differences in individual SES (and all other risk factors):
  – Scottish respondents at 50% higher risk of IHD compared to English (Mitchell et al 2005)

• Controlling for differences in area-based deprivation:
  – Scottish all-cause mortality 8% higher than England & Wales (Hanlon et al, 2005)
  – (Higher cause-specific ‘excesses’ (e.g. cerebrovascular disease: 24%; lung cancer: 26%; suicide: 40%))
  – ‘Excess’ widening, and greatest in West Central Scotland/Glasgow

• And most recently: comparisons of Glasgow with Liverpool and Manchester…
Three cities: Glasgow, Liverpool and Manchester

- Identical levels and patterns of deprivation
- But premature deaths 30% higher in Glasgow (15% higher for deaths at all ages)
- This ‘excess’ Glasgow mortality seen in (almost) all age bands, both genders, deprived and non-deprived neighbourhoods
- Not explained by historical changes in deprivation
- Not explained by differences in population composition of cities
- Data show quite remarkable similarities between the cities (especially Glasgow and Liverpool) in all aspects... except health
Additional explanations required (and everyone has a theory…)

- Artefact
- Culture
- Genetics
- Greater ‘vulnerability’ in Glasgow
- Migration
- Psychological outlook
- Substance misuse cultures
- Social capital
- Spatial patterning of deprivation
- Family/parenting
- Gender
- Political attack
- Social mobility
- Sectarianism
- The weather…
Additional explanations

• All the many suggested theories have been assessed in terms of plausibility

• For the most plausible, no evidence/data to support or refute them

• So…
3-city programme of research

• Full programme of research to investigate the more plausible theories
• Relevant to all Scotland, but..
• ..based on comparisons of Glasgow with Liverpool and Manchester
• Different components:
  – Hypothesis-specific projects (e.g. spatial patterning of deprivation; early years experiences; alcohol harm)
  – Qualitative research
  – Collection of new data through 3-city survey…
NB (1)

- We are not seeking explanations *in place of* poverty and deprivation
- We are seeking explanations *alongside* poverty and deprivation
NB (2)

• No magic bullet…
NB (3)

- We do not necessarily agree with hypotheses under investigation…
- This is about disproving hypotheses as well as looking for important potential explanations.
3-city survey

- GCPH - NHS Health Scotland – Aberdeen University joint research
- Sample size: 3,600 (1,200 in each city)
- 55% response rate
- Collecting new data for specific hypotheses…:
  - Lower social capital in Glasgow?
  - Result of ‘political attack’?
  - Different ‘values’ in Glasgow (incl. psychological outlook, ‘time preferences’)
  - Lower social mobility
  - Boundlessness/alienation (‘anomie’)
  - Lower ‘sense of coherence’
  - (Different early years experiences)
3-city survey

• …wherever possible, using previously validated questions/scales e.g.
  – ONS social capital questions
  – Schwartz’s 21 item Human Values Scale
  – Life Orientation Test (Revised) (LOT-R)
  – Time preferences (University of Aberdeen)
  – Antonovski’s ‘Sense of coherence’ scale (SOC-13)
  – Generalised self-efficacy scale

• Plus new questions where validated scales etc not available
(Very) preliminary results

• NB: the briefest of the briefest overview… (only a few preliminary results)
• **Not** covering all hypotheses today
• Simple descriptive analyses only:
  – By city
  – By sub-groups:
    • Age
    • Gender
    • Deprivation quintile
• More complex analyses (including statistical modelling (MLM)) will be reported later
Lower social capital in Glasgow?

- Not in all aspects
- But significant differences in relation to: reciprocity, volunteering, trust and other ‘proxies’ for social capital…
Reciprocity: exchanging favours with people who live nearby.

And same overall pattern by age, sex, deprivation quintile.
Unpaid help: at least one example of unpaid help in previous 12 months

<table>
<thead>
<tr>
<th>City</th>
<th>16-29</th>
<th>30-44</th>
<th>45-64</th>
<th>65+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glasgow</td>
<td>16.4%</td>
<td>6.1%</td>
<td>10.6%</td>
<td>4.6%</td>
</tr>
<tr>
<td>Liverpool</td>
<td>17.1%</td>
<td>14.6%</td>
<td>14.6%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Manchester</td>
<td>18.1%</td>
<td>6.1%</td>
<td>14.6%</td>
<td>12.0%</td>
</tr>
</tbody>
</table>

Glasgow Liverpool Manchester Glasgow Liverpool Manchester Glasgow Liverpool Manchester Glasgow Liverpool Manchester
Volunteering by dep quintile

Unpaid help: at least one example in previous 12 months

<table>
<thead>
<tr>
<th>Quintile</th>
<th>Glas</th>
<th>Liv</th>
<th>Man</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Most)</td>
<td>18.1%</td>
<td>6.1%</td>
<td>2.7%</td>
</tr>
<tr>
<td>2</td>
<td>8.2%</td>
<td>7.7%</td>
<td>9.0%</td>
</tr>
<tr>
<td>3</td>
<td>3.3%</td>
<td>16.8%</td>
<td>13.9%</td>
</tr>
<tr>
<td>4</td>
<td>12.4%</td>
<td>15.6%</td>
<td>17.9%</td>
</tr>
<tr>
<td>5 (Least)</td>
<td>5.7%</td>
<td>28.0%</td>
<td>30.5%</td>
</tr>
</tbody>
</table>
Trust (general)

Trust: % saying most people can be trusted (generally)

Similar results in most age, sex, deprivation groupings
Trust (neighbourhood)

Trust: % saying most people in neighbourhood can be trusted

And same overall pattern by age and sex as well
% with no religious affiliation

Glas | Liv | Man
1 (Most) | 52.3% | 22.4% | 13.5%
2 | 46.5% | 40.7% | 32.4%
3 | 45.7% | 31.5% | 29.2%
4 | 43.8% | 33.1% | 27.8%
5 (Least) | 45.0% | 36.2% | 38.0%
(Perception of) ‘political attack’

- Hypothesis: that effects of 1980s Tory policies have had particular lasting and toxic effect on Glasgow’s population
- How ask about that in 2011?
- Questions also look at general perceptions of, and trust in, political establishment, and ability to influence etc (so – some links to social capital)
• General lack of trust/faith in national and local governments in all three cities
• High levels of ‘powerlessness’ in all three cities
• Some differences in perceptions of impact of policies in 1980s, but difficult to interpret (may be clearer with more sophisticated analyses)
Human values

• Schwartz’s 21-item ‘human values’ scale
• Derives 10 core values (from 21 questions):
  – Conformity
  – Tradition
  – Benevolence
  – Universalism
  – Self-direction
  – Stimulation
  – Hedonism
  – Achievement
  – Power
  – Security
• Additionally we looked at issues of materialism and individualism (extra questions)
Human values

- Schwartz’s 21-item ‘human values’ scale
- Derives 10 core values (from 21 questions):
  - **Conformity** (cf ‘boundlessness’ & alienation)
  - Tradition
  - **Benevolence** (links to social capital)
  - **Universalism** (cf individualism)
  - **Self-direction** (social mobility, aspirations)
  - Stimulation
  - **Hedonism**
  - **Achievement** (social mobility, aspirations)
  - **Power** (links to materialism)
  - Security
- Additionally we looked at issues of *materialism* and *individualism* (extra questions)
Human values - summary

• Suggests some ‘values’ related hypotheses are unlikely:
  – Greater hedonism
  – Lower achievement/aspirations

• Backs up some of the social capital findings

• Doesn’t rule out differences in:
  – Materialism
  – Individualism

• More sophisticated analyses required to unpick detail
Life orientation

• Life orientation test (revised) (LOT-R) – measures levels of optimism
• So are Glaswegians less optimistic..?
Life orientation: mean optimism score

Life Orientation Test (revised) (LOT-R): mean overall optimism score (0-24)

And same overall pattern by age, sex, deprivation quintile
Sense of coherence

• Measured by Antonovski’s ‘sense of coherence’ 13 item scale (SoC-13)
• Relates to extent to which people can overcome/survive impact of stress on health and well-being
• 3 components: comprehensibility, manageability, meaningfulness
• So, is SoC lower in Glasgow?
Sense of coherence

Mean Sense of Coherence (soc-13) score (13-91)

- Glasgow: 67.6
- Liverpool: 63.1
- Manchester: 59.3
### Mean Sense of Coherence (soc-13) score (13-91)

**Overall score significantly higher in Glasgow in:**
- 4 out of 5 deprivation quintiles (including most and least deprived areas)
- Both genders
- Most age groups

**Same generally true of the three sub-scores**

<table>
<thead>
<tr>
<th>Deprivation Quintile</th>
<th>Glasgow Mean</th>
<th>Live Mean</th>
<th>Man Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Most deprived)</td>
<td>65.4</td>
<td>59.8</td>
<td>55.7</td>
</tr>
<tr>
<td>2</td>
<td>65.9</td>
<td>61.4</td>
<td>58.2</td>
</tr>
<tr>
<td>3</td>
<td>66.6</td>
<td>63.0</td>
<td>59.4</td>
</tr>
<tr>
<td>4 (Least deprived)</td>
<td>68.0</td>
<td>65.1</td>
<td>62.1</td>
</tr>
<tr>
<td>5</td>
<td>71.5</td>
<td>65.7</td>
<td>60.6</td>
</tr>
</tbody>
</table>

**Scores**
And….

• …so much more in the survey that I don’t have time to show/explain today
Other projects & hypotheses - update

- Qualitative research
  - Number of hypotheses (e.g. psychological outlook, family environment, social mobility, social capital), being explored qualitatively in 3 cities
  - 2nd phase of research underway
  - Will report on both phases next year
Other projects & hypotheses/themes - update

- **Early years experiences** – report to be published in next few weeks
- **Spatial patterning of deprivation** - report to be published soon
- **Development of city structures** – PhD student (Joanna Stewart)
- **Alcohol harm** – new project underway
- **Drugs misuse** – new project under discussion (still…)
- **Vitamin D**
  - Systematic review of evidence of link between vitamin D and (premature) mortality completed (Lynne Rush)
- **And many more…**
  - Artefact
  - Sectarianism
  - Different projects, different hypotheses (some you wouldn’t believe)
Next steps

• Survey analyses:
  – More detailed statistical analyses (modelling)
  – Publication of results by end of year (at latest)

• Other projects
  – A number of reports to be published over coming year

• Synthesis of results of all projects
  – Including seminar next year
And finally

• Spot the missing words…

‘thoughtful’  ‘insightful’  ‘thoughtful’ and ‘insightful’?
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