Spatial inequalities – a case study: understanding excess mortality in Glasgow and Scotland

*a.k.a.*...

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History, politics and vulnerability: explaining excess mortality in Scotland and Glasgow

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Today

• Overview of Scotland’s & Glasgow’s health (but NB mercifully briefly)
• What do we mean by ‘excess’ mortality? (also very briefly)
• Main components of explanatory model for Glasgow (rather than Scotland)
• NB: (very) edited highlights only today...
Scotland’s & Glasgow’s health

Scotland: still the sick man of Europe
Scotland & other Western European countries

MALE life expectancy at birth, c. 2009
Source: Scottish & European HFA Database 2012; ONS

FEMALE life expectancy at birth, c. 2009
Source: Scottish & European HFA Database 2012; ONS
Not always the ‘Sick Man of Europe’

Male & female life expectancy:
Scotland and 18 other Western European Countries, 1851-2013
Source: Human Mortality Database
Life expectancy trends 1950-

Male life expectancy:
Scotland and selected European countries, 1950-2013
Source: Human Mortality Database
Life expectancy trends 1950-

Female life expectancy:
Scotland and selected countries, 1950-2013
Source: Human Mortality Database
Eastern European trends in life expectancy 1990s-

**Male life expectancy:**
Scotland and selected E. European countries, 1993-2013
Source: Human Mortality Database/WHO HFA Database

**Female life expectancy:**
Scotland and selected E. European countries, 1993-2013
Source: Human Mortality Database/WHO HFA Database
God Bless America
Widest health inequalities in W. Europe

Education based Relative Index of Inequality (RII) for all-cause mortality, females 30-74 years, early to mid 2000s

Glasgow’s health

Male life expectancy at birth by Scottish local authority area, 2013-15

Source: NRS
Glasgow’s health

Male life expectancy at birth, selected post-industrial European cities: mid-2000s
Sources: NISRA; GRO(S); S.O. Free State of Saxony; CORPH-SPMA; INSEE & CepiDc; NRW-LIGA; ONS; Landesamt für Verbraucherschutz Sachsen-Anhalt; CSO; GUS; CBS Netherlands
Glasgow’s health

Male Life Expectancy at Birth across selected UK Cities, 1991-93 to 2007-09
Source: ONS, GRO(S)
Health inequalities - Glasgow

Male life expectancy at birth in Glasgow, by neighbourhood, 2008-2012
Source: Understanding Glasgow website (from National Records of Scotland data)
Why is Glasgow the UK’s sickest city?

By Lucy Ash
BBC News

Babies born in Glasgow are expected to live the shortest lives of any in Britain. One in four Glaswegian men won't reach their 65th birthday. What is behind the "Glasgow Effect" and can it be prevented?
Scottish ‘excess’ mortality

- Traditional explanation: socio-economic deprivation (underpinned by effects of post-industrial decline)
- NB Massively important: poverty and deprivation (and underlying/related factors e.g. deindustrialisation) main drivers of poor health in any society
- But...not a sufficient explanation
- ‘Excess’ mortality: higher mortality observed in Scotland (compared to elsewhere in the UK) over and above that explained by differences in socio-economic deprivation
- Ubiquitous in Scotland but greatest in and around Glasgow/West Central Scotland e.g.
  - Glasgow vs Liverpool & Manchester 2003-07 (GCPH, 2010):
    - 30% higher premature deaths (<65 years)
    - 15% higher deaths all ages
Poverty & life expectancy: UK cities

Male life expectancy 2005-07 by % of population classed as 'breadline poor' 2000, major British cities

Source: SASI Breadline Britain data; ONS
Scottish ‘excess’ mortality

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  – Glasgow vs Liverpool & Manchester 2003-07 (GCPH, 2010):
    • 30% higher premature deaths (<65 years)
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• Unhelpfully referred to as ‘Scottish Effect’ and ‘Glasgow Effect’ (cue tedious rant...)
The Glasgow effect: 'We die young, but you just get on with it'

Research based on newly released 1970s policy documents shows Glaswegians' higher risk of premature death was caused by 'a housing system that displaced skilled workers from inner city to new towns and left the poor behind'.

Revealed: 'Glasgow effect' mortality rate blamed on Westminster social engineering

Scotland Office policies blamed for Glasgow Effect in forthcoming report

The Glasgow Effect: Activism as a public health issue

Labour let down Glasgow's poor. Nicola Sturgeon must not do the same.

Comment: Kevin McKenna on the Glasgow Effect and why it demands politicians and policy makers.
What explains the excess?
Synthesising the evidence
Theories, theories, theories...

- Artefact
- Migration
- Political attack/effects
- Culture
- Deindustrialisation
- Income inequalities
- Social mobility
- Substance misuse cultures
- Alienation/anomie
- Family/parenting/early years

- Social capital
- (Health) services
- Patterning of deprivation
- Sectarianism
- Individual values (e.g. psychological outlook)
- Sense of coherence
- Behaviours
- Genetics
- The weather...
Theories not necessarily grounded in solid evidence

• Irn Bru
• Less broadband
• Water impurities
• A lack of runner beans

• Fewer pet dogs
• Submarines on the Clyde
• Low air pressure
• A general “curse”
Theories not necessarily grounded in solid evidence

“It is as if a malign vapour rises from the Clyde at night and settles in the lungs of sleeping Glaswegians”

The Economist. ‘No City for Old Men’. August 2012
Synthesising the evidence

• 2016 report: we assessed the merits (or, er, otherwise) of 40 (!!) (more plausible) proposed explanations

• All 40 assessed in terms of:
  – evidence for causal links from research literature
  – data for Scotland v England & Wales
  – data for Glasgow v Liverpool & Manchester
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<tr>
<th>Topic</th>
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<td>Educational attainment</td>
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<td>Quality of physical envt.: vacant &amp; derelict land</td>
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<td>Anomie</td>
<td>Employment/ labour market</td>
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<td>Impacts of the World Wars</td>
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<td>Scale of deindustrialisation</td>
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<td>Artefact: inadequate measurement of poverty and deprivation</td>
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<td>Scale and nature of post-war urban change</td>
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<td>Sectarianism</td>
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<td>Climate: rainfall</td>
<td>Health &amp; social services</td>
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<td>Lagged effects of poverty &amp; deprivation</td>
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<td>Sense of coherence</td>
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<td>Climate: vitamin D deficiency</td>
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<td>Climate: winter deaths</td>
<td>Health behaviours - diet</td>
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<td>Obesity</td>
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<td>Social mobility</td>
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<td>Culture of dependency</td>
<td>Health behaviours - drugs misuse</td>
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<td>Political influences and vulnerability</td>
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<td>Spatial patterning of deprivation</td>
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<td>Culture of substance misuse</td>
<td>Health behaviours - physical activity</td>
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<td>Premature and low birth-weight babies</td>
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<td>Terminations of pregnancy</td>
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<td>Early years: family, gender relations and parenting differences</td>
<td>Health behaviours - smoking</td>
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<td>Quality of physical envt.: land contamination</td>
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Synthesising the evidence

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• All 40 assessed in terms of:
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  – data for Glasgow v Liverpool & Manchester

• But focus here is **only** on relevant, evidence-based, explanations
Explanatory model for Glasgow

- Based on explicit comparison with Liverpool and Manchester (excellent comparator cities)
- Reflects evidence & knowledge of health determinants...
- ...including political influences on health
- Very complex...
Explanatory model for Glasgow

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• Key to the model is that Glasgow’s population has been made more vulnerable to the same key economic and political drivers of poor health as Liverpool/Manchester...
Key exposures

Industrial employment loss:
Loss of industrial employment 1931-2001 as % of employment in 1931
Source: University of Portsmouth/Great Britain Historical GIS Project (www.visionofbritain.org.uk)

- Glasgow: 83.3%
- Liverpool: 82.5%
- Manchester: 85.8%
- Scotland: 47.1%
- England: 30.5%
- Wales: 43.8%

Deindustrialisation
Poverty & deprivation

Income deprivation, 2005: UK cities
Source: DWP

% of total population classed as 'income deprived'

Stirling 10.0  Aberdeen 10.8  Edinburgh 11.4  Leeds 12.1  Bristol 13.6  Sheffield 14.3  Dundee 18.6  B'hain 21.0  Manchester 23.4  Liverpool 24.6  Glasgow 24.8
Key exposures

UK Government economic policy since 1979

Trends in income inequality (Gini coefficient of equivalised inequality in income after tax and before housing costs), GB/UK* 1961-2010
Source: Institute of Fiscal Studies

*Data are for Great Britain 1961-2001/02, and for United Kingdom thereafter

UK Government economic policy since 1979
so all these things being the same/similar, Glasgow ended up in a worse place because it was already more vulnerable to all that...
Explanatory model for Glasgow

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• Reflects evidence & knowledge of health determinants...
• ...including political influences on health
• Very complex...
• Key to the model is that Glasgow’s population has been made more vulnerable to the same key economic and political drivers of poor health as Liverpool/Manchester..
• Population made more vulnerable by cumulative effects of a series of historical factors/events/decisions...
EXPLAINING EXCESS MORTALITY IN GLASGOW

WHAT DETERMINES HEALTH IN ALL SOCIETIES
- Political economy
- Environmental conditions
- Cultural and community networks
- Socioeconomic circumstances

KEY EXPOSURES
- De-industrialisation
- Poverty and deprivation
- UK economic and social policies

OUTCOMES
- Socioeconomic spatial polarisation of UK
- Glasgow, Liverpool, and Manchester at the bottom of inequality spectrum
- Glasgow, Liverpool, and Manchester have highest mortality in all British cities

UNEXPLAINED OUTCOMES
- Divergence between Glasgow and Liverpool/Manchester from latter half of 20th century
- Higher mortality in Glasgow from:
  - Chronic diseases
  - Alcohol drugs suicide

'EFECT MODIFIERS'

Lagged effects of deprivation (overcrowding)

Greater VULNERABILITY to key exposures

Social, economic, and physical change in post-war decades

Local government responses

Demographic deficit 1980s-1990s

Scottish Office regional policy 1950s-1970s

Nature and scale of urban change 1950s-1980s

Socially selective New Towns policy

Migration from Glasgow 1950s-1970s

Social capital

PROTECTIVE EFFECTS (capacities) for comparator cities

Liverpool social fabric politicisation participation

Manchester ethnic diversity adaptation to change

Strong link

Link
Percentage of households classed as 'core poor', 1970-2000
Source: Breadline Britain data (Dorling et al, 2007)

Distribution of overcrowding (households > 1 person per room) across city-specific deciles, 1971
Although current levels of income-based poverty are similar in the three cities, and have been similar for decades, people in Glasgow were historically living in worse housing conditions.

And this is still relevant to adult population health today.
Housing conditions in Glasgow & Scotland 1969-1972

Source: Nick Hedges/Shelter Scotland (© Shelter 2015)
Nature & scale of urban change 1950s-80s

Percentage of houses demolished/closed in major cities, 1955-85
Source: Taubut et al 2015 (calculated from various sources)
Nature & scale of urban change 1950s-80s

Approximate number of dwellings in main post-war housing estates, c. 1980
Source: Taullibut et al 2016 (calculated from various sources)
Nature & scale of urban change 1950s-80s
Nature & scale of urban change 1950s-80s

Expenditure on repairs, supervision and maintenance per local authority dwelling (1981 prices), Glasgow, Liverpool and Manchester
Source: Taulbut et al 2015 (calculated from various sources)
Scottish Office regional policy 1950s-1970s

• Scottish Office was part of UK Government (but which had high levels of autonomy)
• Extensive analyses of previously secret government documents (Chik Collins & Ian Levitt)
• Scottish Office recognition of deep-rooted post-WWII housing problems
• No confidence that local government could solve it
• Scottish Office response to deep-rooted post-WWII housing problems: to ‘sacrifice’ the city
  – Glasgow officially designated a “declining city”
  – All economic investment to be made outside the city
  – Industry & sections of population moved outside the city e.g. socially selective New Towns policy
Regional policy post-WWII

Social class IV & V, 1981: Glasgow, Liverpool and their associated new towns
Source: Taulbut et al 2015 (calculated from census data)
Regional policy post-WWII

- Policy extended & expedited during 1950s-70s despite awareness of consequences (socio-economic and health) for the city:

- “it is true that today we are getting rid of some of our best tenants and are leaving ourselves with this gap, and we are losing the capacity for leadership in the very communities which are creating the social problems” (Hugh Brown, MP, 1966)

- “Glasgow is in a socially... [and] economically dangerous position. The position is becoming worse because, although the rate of population reduction ... is acceptable, the manner of it is destined within a decade or so to produce a seriously unbalanced population with a very high proportion of the old, the very poor and the almost unemployable ... the above factors amount to a very powerful case for drastic action to reverse present trends within the city. [But] there is an immediate question as to how much room exists for manoeuvre.” (1971 SDD Reflective Review of the impact of overspill policy on Glasgow, “The Glasgow Crisis”).
Local government responses 1980s

• Different local government responses to right-wing UK (Conservative Party) Government policies
• Very complex story but...
• ...in effect the comparator cities protected their populations better than Glasgow e.g.:...
• E.g. Liverpool:
  – Mobilisation of opposition against UK government
  – Widespread participation and politicisation of the public
  – In response, greater priority given to (e.g.) poverty, new council housing
• Whereas in Glasgow:
  – Focus on inner-city gentrification
  – Limited priority given to poverty and living conditions in peripheral estates
Conclusions

- Health in Scotland (and especially Glasgow) characterised by extremely wide inequalities
- ‘Excess’ mortality plays a huge part in that
- The scale of the excess is enormous – and tragic
- Most likely underlying causes now identified
  - Highly complex and multifactorial
  - Glasgow made more vulnerable to economic/political exposures by a whole series of adverse historical factors and decisions
- Emphasises importance of political (especially economic) decisions for population health
  - Report includes 26 specific policy recommendations to address the issue
Further details

- Report available from: [www.gcph.co.uk](http://www.gcph.co.uk)
- Or email me: [david.walsh.2@glasgow.ac.uk](mailto:david.walsh.2@glasgow.ac.uk)
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