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Unhealthy Glasgow: a case for ecological public health?

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ABSTRACT

Ecological public health has been proposed as an approach appropriate for addressing the multiple transitions that currently affect human health and sustainability. The paper draws on the author's experience in public health in Glasgow to analyse the health challenges faced by this postindustrial Scottish city. Like other such cities, it not only faces multiple health challenges but also demonstrates a currently unexplained excess mortality that has been dubbed the 'Glasgow Effect'. To explore this troubled mixture, the paper outlines four historical waves of public health challenge and response in Glasgow over the last century, and proposes that a fifth is emerging. The challenge now is how to negotiate environmental sustainability with social, political and economic sustainability to enhance health for all. The paper suggests that gains made by past approaches still need to be protected and can be included within ecological public health, but they lack the wider vision, coherence and capacity required if cities are to address the scale and range of contemporary conditions. A number of lessons are offered for the ecological public health perspective.

Introduction: unravelling the complexity of Glasgow's public health

In recent publications Rayner and Lang have argued that 'ecological public health' should become the prominent approach to improving health in the 21st Century.[1,2] This paper considers whether that perspective is relevant to the circumstances of the UK's most unhealthy city – Glasgow. Life expectancy in Glasgow is the lowest of any area in the UK, 72.6 years for males and 78.5 for women in 2010–12, while life expectancy for the highest, East Dorset (in Southern England), was 10.3 more years for males and 8.1 more years for women.[3] 75% of Glasgow-born baby boys and 85% of baby girls are likely to reach their 65th birthdays, if 2010–12 mortality rates persist throughout their lifetime. This city is a well-studied urban setting, with research seeking to explain why its people maintain such poor patterns of health while other cities, in some cases more afflicted by economic decay and social dislocation, have improved. It raises questions about whether Glasgow has specific problems which make it unique or whether its patterns of health are better explained by a complex interrelation of factors, together known as the Glasgow Effect, a more cultural explanation. This paper reflects on that literature and asks whether conventional public health models and methods applied in four historical 'waves' in Glasgow, and seen as effective in the past, still have applicability in the 21st century. These conventional

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public health approaches appear to be now insufficient. The paper considers whether ecological public health, with its focus on the interplay of material, biological, social and cognitive shaping factors, might offer an analytic and change model better adapted to Glasgow's current needs and circumstances, and contribute to addressing the Glasgow Effect. If depression and despair, lodged in culture, help explain stubborn patterns of poor health and well-being, cultural regeneration should therefore provide an important element of health improvement. But if material inequalities persist, might these cultural gains be offset? The paper considers whether and how public health in a post-industrial city such as Glasgow can be improved and what its role in a more sustainable society might be. The paper makes a case for more coherent thinking about the future with public health at its heart.

Glasgow's current public health challenges

With a population of nearly 600,000 people, Glasgow is Scotland's largest city. Located on the banks of the River Clyde, it is the centre of a larger conurbation that has experienced significant industrial decline.[4] One well documented consequence is that the populations of Glasgow and West Central Scotland (WCS) suffer from a wide range of adverse health and social outcomes.[5] What is true of Glasgow and its hinterland is also true of other similar regions of the UK and Europe. In a recent study, ten of these regions were selected for analysis (the Ruhr area and Saxony in Germany; Katowice in Poland; Northern Moravia in the Czech Republic; Nord-Pas-de-Calais in France; Wallonia in Belgium; Limburg in the Netherlands; Northern Ireland; Swansea and the coalfields of south Wales; and Merseyside in England).[6,7] All these postindustrial regions have poor health and social outcomes compared to their respective national averages. Males from West Central Scotland (WCS) currently have lower life expectancy than those from each of these other regions except for Katowice in Poland and Northern Moravia in the Czech Republic. The difference is that the rates of improvement in life expectancy in these two regions, compared to WCS, suggest that these regions will overtake WCS in less than 10 years. WCS females also have lower life expectancy than the other selected regions and improvement rates are also faster in the comparator regions.[7] Importantly, the current economic status of WCS is *better* than many of these other regions. This suggests that non-economic cultural and socio-economic factors may be involved as health determinants.

Further evidence comes from an elegant comparison of three cities: Glasgow, Liverpool and Manchester.[8] Liverpool and Manchester stand out because they share with Glasgow high levels of poverty and low life expectancy. Indeed, when the deprivation profiles of the three cities are analysed, there is almost no difference. This means that any difference observed in health outcomes cannot be explained by deprivation because all three manifest the same levels of deprivation. In stark difference, working age adults in Glasgow have 30% higher mortality than in the two English cities while excess mortality for Glasgow, relative to Liverpool and Manchester, can be seen across the whole population, with all-age mortality around 18% higher in the most deprived decile and 15% higher in the least deprived decile.[8]

What can have caused these additional deaths? For both cancers and diseases of the circulatory system, Glasgow has 12% more deaths. Deaths among Glaswegians are 27% higher in relation to lung cancer, while smoking rates are almost identical. Glasgow's rates are 32% higher for external causes and almost 70% higher for suicide. Glasgow has death rates that are 2.3 times higher for alcohol-related causes, and almost 2.5 times higher for drug-related poisonings. The numbers are significant. Between 2003 and 2007 there were more than 4500 excess deaths in Glasgow, of which almost half (2090) occurred under the age of 65 years. Analysis by age, sex and cause shows that, for deaths under 65 years of age, almost half of the excess was due to deaths from a combination of alcohol related causes (32%) and drugs related poisonings (17%).[8]

Perhaps this picture is an historical one of a city with persistent excess deaths but there is evidence to suggest that this excess – the 'Glasgow Effect' – is a relatively recent phenomenon.[8] This has been confirmed by another multicity European study.[9] Analyses of historical data suggest it is unlikely that the deprivation profile of Glasgow has changed significantly relative to Liverpool and Manchester in recent decades; moreover, the mortality gap appears to have widened since the early 1970s. These results emphasize that, while deprivation is a fundamental determinant of health and an important driver of mortality, it constitutes only one part of a more complex picture. Additional explanatory factors are required. Importantly, these mortality data must be supplemented by an awareness of morbidity: Glasgow's population suffers from high levels of morbidity from non-communicable diseases, mental health problems, obesity and a wide range of social problems.[4]

Learning from history: four waves of public health challenges and responses

Like all urban settlements, Glasgow is marked by its past. In Glasgow, the industrial revolution brought overcrowding, poor sanitation, poor nutrition and water supplies and an appalling built environment.[10–13] These conditions created the ideal milieu for almost all forms of infection. At the same time, recorded levels of alcohol consumption, crime and 'illegitimacy' (to quote just three indices) were so high that they suggest real strains on psychological well-being and social ties, which is why one strand of social comment since Victorian times introduced and sometimes over-stated the moral sphere in explanations.[14]

Since the city rapidly expanded with industrialization and trade, four waves of public health improvement in Glasgow can also be identified.[15] The first wave (approximately 1830–1890) is associated with great public works and other developments arising from responses to the social disruptions which followed the industrial revolution. A health infrastructure began to be injected: water and food market controls, housing, a medical system, etc. Civic order and prosperity slowly improved and, in time, life expectancy began to rise.[4] At that stage, Glasgow was an important hub