



Original Research

Changing places? A comparative analysis of area-based health trends in Scotland through the 1980s and 1990s

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Summary Objectives: Have places in Scotland with the worst/best levels of health and the worst/best experience of health determinants changed since the early 1980s? Twenty-year trends and local-level changes in a selection of health-related indicators were examined to answer this question.

Study design and methods: Routine data for seven health-related indicators, principally derived from Scottish government 'social justice milestones', were collated and analysed at postcode-sector level across four 5-year periods covering the 1980s and 1990s. Analysis was carried out by decile, deprivation quintile, individual postcode sector and for selected 'regeneration areas'.

Results: There was little change in the ranking of areas with the worst and best health in Scotland over the 20-year period. The worst and best initial deciles remained in those positions throughout, while analysis by deprivation showed that the most disadvantaged areas had become relatively worse over the period. The regeneration areas, with one exception, showed little long-term improvement across the indicators. However, a number of postcode sectors across Scotland did buck this overall trend.

Conclusions: This study confirmed the enduring nature of health differences between areas in Scotland, and provided further evidence of widening health inequalities between affluent and deprived areas. The positive experiences of a small number of areas may warrant further investigation since they may hold important lessons for area-based health improvement. The research highlights the potential of this type of analysis to monitor and evaluate area-based initiatives.

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Introduction

There is long-running concern about increasing health inequalities in Scotland and elsewhere in the UK.^{1–3} In part as a consequence of this, the concept of 'social justice' is integral to government policy in Scotland.⁴ Social justice 'milestones'⁵ were established to monitor progress across the field of social policy, including health, but recent milestones do not provide any indication of how relevant health indicators have changed over the long term, nor how they operate at local 'community' levels. The latter is particularly important given related policy initiatives around economic and social regeneration,⁶ and policy initiatives aimed at 'closing the opportunity gap'.⁷

This study examined longer-term trends and local-level changes using a selection of health-related indicators in order to answer the question: Have places in Scotland with the worst (or best) levels of health and the worst (or best) experience of health determinants changed since the early 1980s?

Methods

A selection of health-related measures (described below), based on the indicators used to monitor the social justice milestones, was analysed at postcode-sector level using derived population estimates to allow analysis of long-term trends. Data were examined across four 5-year periods (1981–1985 to 1996–2000). The exact time periods for which data were available differed for different indicators. The focus was on the health status of areas in the initial period against the subsequent pattern of change. Analysis of trends in each measure was performed on a national basis by examination of deciles and deprivation quintiles, and for small areas using individual postcode sectors and sectors grouped together to match the former 'New Life for Urban Scotland' regeneration areas.^a The latter were used as an example of localities where intentional change might have been anticipated. All analyses were performed using Statistical Package for the Social Sciences and MS Excel.

The selection of indicators was severely restricted by the limited availability of relevant

data at postcode-sector level for a 15–20-year period. An initial selection of potential indicators with data was identified from the social justice milestone indicators. This was then revised through the exclusion of some indicators and modification of others to avoid the problem of small numbers at postcode-sector level. In addition, life expectancy was added as an overall mortality measure. Full details for each measure used are given in Table 1.

Changes in Scottish postcode sectors over the last 20 years represent a major obstacle to data analysis at this level. To overcome this, a mapping of all postcodes ever used to those in use at the time of the 1991 Census was employed. This was derived by the Information and Statistics Division of NHS Scotland. All postcode sectors were mapped back, or forward, to 1991 sectors. In many cases, multiple earlier or later sectors mapped to a single 1991 sector. These were excluded from any later in-depth postcode-sector-based analysis. In addition, many Aberdeen postcode sectors had to be excluded because of the particularly extensive changes in Aberdeen postcodes that took place during the 1990s.

At the time of data analysis, population data at postcode-sector level were only available for the years 1981 and 1991 (from censuses) and 1999 and 2000 (from the General Register Office for Scotland). Estimates for the intermediate years were derived crudely by calculation of the percentage change in population between the available years for each postcode sector by quinary age band and sex, and then applying that change as a straight-line proportion for each intermediate year.

Each indicator was analysed for time trend by decile based on the decile groups calculated for the initial period. Similar analysis was carried out for each indicator by Carstairs deprivation quintile,⁸ as allocated to postcode sectors at the 1981 Census. This approach meant that each sector was fixed to its 1981 deprivation quintile throughout the analysis period.

Two types of analysis were performed by individual postcode sector. First, an examination was made of whether, for each indicator, any sectors grouped within the top and bottom percentiles at the beginning of the period had changed position relative to the rest of the country in the subsequent 15–20-year period. Second, an analysis was undertaken of the areas with the most increased and decreased rates for each indicator, irrespective of their initial decile group. Rigorous checking of robustness of figures and investigation into possible reasons for differences was undertaken.

To analyse trends for the four regeneration areas, maps and postcodes that defined the original

^aThe regeneration areas were four peripheral housing estates: Castlemilk in Glasgow, Ferguslie Park in Paisley, Wester Hailes in Edinburgh, and Whitfield in Dundee. In each area, a partnership was created from 1988 under this Scottish Office initiative. The duration of the initiatives varied but continued until at least 1995 in all areas.

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