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Commentary: Clarity in research frameworks for studying ‘health selective migration’

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The roots of ‘health selective migration’ debates lie in 19th Century observations by William Farr and others. The underlying notions are: i) people’s health relates to their residential locations; ii) people’s attributes are used for measures about places and; iii) people move between different locations [1]. Maheswaran and colleagues [2] recently add to the evidence in a study on Sheffield, UK.

This commentary highlights aspects of research operationalisation into health selective migration using examples from Maheswaran et al. [2]. These authors point out that, whilst there are commonalities in findings, previous work has paradoxical results. Some differences will be because the inter-relationships between health, migration and area characteristics do vary. Some contradictory findings will be due to differences in what studies sought to determine alongside variations in geographic scale, time frame and how area characteristics are incorporated. For health selective migration research, lines of enquiry include: ‘Does migration between origins and destinations affect health inequalities between areas?’; and ‘Does the health of migrants differ from others?’

Determining whether migrants affect area level health ideally uses individual microdata and aggregates information into areas at two or more time points and identifies whether flows of migrants by health status between areas accounts for inequality changes. Norman and colleagues [3, 4] use this approach to track moves between differently deprived areas. This includes the ‘put people back’ method, i.e. what if nobody had moved? Enquiries like this tend to find that migration maintains, and may exaggerate, area health inequalities. Alternative lines of enquiry, as in Maheswaran et al. [2], focus, “on the health of migrants at the individual level and not on the effects of migration on health at the area (population) level”.

Both approaches need comparison groups defined for the study purpose. This can be ‘movers’ compared with ‘stayers’ but more usefully has movers compared with different kinds of movers [5]. The Sheffield study [2] is interested in the health of movers between areas with different levels of deprivation with people classified into four (non-) moving categories. This enabled the researchers to investigate for those movers whose area circumstances improved, whether their health also improved and vice versa. For discussions of comparison groups see Spallek et al. [6].

Analytical frameworks with respect to time need consideration [1]. A short period (e.g. from a year before a census) may be insufficient to impact on area inequalities though health variations between movers and stayers are found. Longer time frames (e.g. 10 or 20 years) can reveal whether flows of migrants affect area differences and for individuals (in longitudinal / cohort studies) whether aspects of their lives including residential locations, inter-relate with health outcomes. The 9 years in the Sheffield cohort [2] are sufficient. A longer time will add value but risks attrition.

Time increments depends on the original data collection. Health selective migration investigated using the UK’s census Longitudinal Studies (LS) have 10 year increments [3, 4]. Yearly waves of the British Household Panel Survey offer researchers freedom to define increments which suit their purpose [7, 8]. The British Birth Cohorts have uneven time increments [9]. The Sheffield work [2] uses, “the cohort start point and an end point which was either the cohort end point for patients still alive or the year of death.” In general, start-end comparisons are straightforward to operate [3, 4] but multiple time points capture more life events [5, 8, 9, 10].

Associated with time is the incorporation of area characteristics; both deprivation [3, 4] and urban-rural [11]. Maheswaran et al.’s study [2] is only able to incorporate deprivation cross-sectionally (the Index of Multiple Deprivation’s income domain with areas termed ‘deprived’ and ‘affluent’). As acknowledged, a cross-sectional measure is less than ideal since areas change deprivation over time [12]. The LS work has individual attributes contemporary with local context [3, 4, 11] but decennial increments miss the intervening years. Green et al. [8] use annual house price data though this may not represent areas of social housing. Comparable deprivation measures over time [12] linked to the British Birth Cohorts can incorporate accumulations of (dis) advantage [9] while a ‘life-course of place’ is used in Scotland [10]. For
New Zealand, Exeter et al. [5] use quarterly increments to model deprivation trajectories for movers, churners and stayers.

This commentary has focused on operational decisions in research design although any data source will never allow complete freedom. If studying health selective migration, a start point is to clarify whether the interest is in the impact of (non-) migrants (and their health statuses) on area measures or on the impact of area characteristics on (non-) migrants (and their health statuses). The comparison groups need defining with people tracked over time and across area types. Maheswaran and colleagues are to be commended for a well defined, transparent study which yields useful findings.

References

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