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GoWell: The challenges of evaluating regeneration as a population health intervention ☆

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ABSTRACT

Objective. Urban regeneration can be considered a population health intervention (PHI). It is expected to impact on population health but the evidence is limited or weak, in part due to the difficulties of evaluating PHIs. We explore these challenges using GoWell as a case study.

Method. A 10-year evaluation of housing improvement and urban regeneration in 15 deprived areas in Glasgow, Scotland (2005–2015).

Results. Challenges faced include: definition and changing nature of the intervention; identifying the recipients of the intervention; and constraints of study design affecting capacity to attribute effects. We have met these challenges by: adapting the evaluation to take account of changing intervention plans and delivery; making pragmatic choices about which populations to focus on for different parts of the study; and taking advantage of delayed delivery of some components to identify controls.

Conclusion. Commitment to a long-term evaluation by the Scottish Government and other partners has enabled us to develop a package of studies to investigate health and other outcomes, and the processes of a PHI. GoWell will contribute to the evidence base for interventions focused on tackling the wider determinants of health and help policymakers to be more explicit and realistic about what regeneration might achieve.

Introduction

Poor health is associated with poorer living circumstances (Clark et al., 2007; Croucher et al., 2007; Davison and Lawson, 2006; Ellaway et al., 2012; Meijer et al., 2012; Renalds et al., 2010; Truong and Ma, 2006; Yen et al., 2009) and there is therefore, an expectation that housing improvements and area regeneration in disadvantaged urban areas will improve health and reduce social inequalities in health (Kearns et al., 2009; WHO Commission on Social Determinants of Health, 2008). Urban regeneration can thus be considered a public health intervention (PHI) whereby improvements in health and wellbeing are stated as specific aims of regeneration strategies (Beck et al., 2010). Regeneration generally includes a range of activities that may potentially improve the interlinked dimensions of household, dwelling, community and neighborhood environment in urban areas, thereby impacting on many of the social determinants of health (Dahlgren and Whitehead, 2007). However, to date the evidence that regeneration activities achieve these health benefits is limited or weak and any health effects are small (Jacobs et al., 2010; Thomson et al., 2009). Evidence for long-term effects and the mechanisms by which different interventions or combinations of interventions might lead to positive health outcomes tend also to be absent (Atkinson et al., 2006; Jacobs et al., 2010; Lindberg et al., 2010; Thomson et al., 2006). There are also concerns that regeneration activities may have unintended consequences of social disruption and displacement through gentrification (Fullilove, 2004; Huxley et al., 2004; Lindberg et al., 2010; Paris and Blackaby, 1979).

Undertaking an evaluation of regeneration is difficult — these are complex interventions not easily suited to being assessed using RCT methods. In the USA two well-researched regeneration programs have used random allocation. The Gautreaux 1 Program used a quasi-random allocation of households to suburban locations (Rubinowitz and Rosenbaum, 2000). Informed by this program the Moving to Opportunity Demonstration used random allocation to experimental, comparison and control groups for relocation purposes (Briggs et al., 2010). Studies of these programs have focused mostly on outcomes related to employment, earnings, education/college, and crime or victimization, with some studies considering health behaviors such as smoking and sexual activity among young people (Briggs et al., 2010; Rubinowitz and Rosenbaum, 2000). However these two studies were not strictly evaluations of urban regeneration but rather of relocation with the combined objectives

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of moving people away from concentrated poverty as well as away from racially segregated places. The focus on relocation and the combination of poverty and racism in US society means that it is difficult to transfer the findings to other national contexts where these problems are less extreme and where the response to such problems tends to be focused on regeneration of areas rather than relocation, so-called 'dilution' rather than 'dispersal', as in the UK (Kearns, 2002). Looking more specifically at interventions focused on housing improvement or area regeneration, there have been four published studies that have used RCTs to evaluate warmth improvements (Jacobs et al., 2010; Ludwig et al., 2012; Thomson et al., 2009), interventions that are much easier to randomize than such things as demolition of tower blocks. Most other evaluations of regeneration or housing improvement have used quasi-experimental methods, with relatively short follow-up periods and, while not necessarily having small numbers they are often not powered to find small effects and suffer from sample bias and low levels of recruitment and follow-up (Thomson et al., 2013).

The lack of good quality evaluations is not just an issue for investigating the effects of urban regeneration but is rather a problem for many PHIs (Craig et al., 2008; Egan et al., 2010; Petticrew et al., 2004; Thomson, 2008; Weitzman et al., 2009; Whitehead et al., 2004). PHIs are challenging to evaluate but we argue that it is important to do so. Not doing so leads to less research in this field, and therefore contributes to the so-called inverse evidence law, which suggests that policies more geared towards tackling the wider determinants of health often have little or no robust evidence upon which to base decisions that may (a) potentially have long term impacts on individuals and communities; and (b) cost a lot of money (Hawe and Potvin, 2009; Morabia and Costanza, 2012; Ogilvie et al., 2005; Petticrew et al., 2004). Much of the discussion of these challenges in the current literature tends to be at a rather abstract level. In contrast, this paper uses a worked example of a large scale regeneration evaluation (GoWell) to explore in detail the challenges of evaluating natural experiments involving complex social interventions (Craig et al., 2012), and some ways of overcoming those challenges. Here we use GoWell to illustrate the challenges of evaluating public health interventions enacted in or through non-health sectors. The following provides a brief description of regeneration in Glasgow, the focus and study components of GoWell and then, the challenges of evaluating this type of intervention.

Glasgow and regeneration

Glasgow is the largest city in Scotland. It has high concentrations of poverty, disadvantage and poor health. There are stark area-based health inequalities with life expectancy in the most disadvantaged areas estimated to be at least 15 years less than in the least disadvantaged (Hanlon et al., 2006; Palmer et al., 2006; Walsh, 2008; WHO, 2008).

Glasgow's socially disadvantaged areas include:

- post-second world war housing estates situated on the edges of Glasgow city (referred to as peripheral estates). These largely comprise low-rise and medium-rise tenement flats (large buildings divided into flats off a common stairwell) and houses.
- inner-city estates comprising post-war multi-storey flats and tenement flats, gardened estates of houses and flats mostly dating from the 1930s, and old neighborhoods dominated by 19th and early 20th century tenement flats.

The intervention(s)

Social or council housing remains a dominant form of housing in Glasgow with about 40% of housing being socially rented. (This compares to about 17% socially rented UK-wide). In 2003, over 80,000 socially rented homes in the city were transferred from public ownership to Glasgow Housing Association (GHA), a third sector social landlord. Most of these 80,000 homes needed improvement to meet the Scottish Housing Quality Standard (Communities Scotland, 2007)[1] and a major regeneration program was developed which included housing improvements, building new socially rented and private sector homes, demolition (approximately 20,000 homes), improvements to the physical neighborhood environment, new/improved amenities and services, and community interventions (see Box 1 for details).

GoWell

In GoWell we are studying this large, multi-faceted program of housing investment and area regeneration in 15 areas across Glasgow. The GoWell Program began in 2005 and was a planned 10-year evaluation aimed at exploring the links between regeneration and the health and wellbeing of individuals, families and communities. It also aimed to establish the nature and extent of these impacts and the processes that have brought them about, to learn about the relative effectiveness of different approaches, and to inform policy and practice.

GoWell is a research and learning program comprising multiple components, and multiple research methods and uses a pragmatic comparative design and mixed methods. The components of the evaluation are shown in Box 2. GoWell also has a strong focus on dissemination and community engagement activities including: regular community newsletters to residents and presentations of local data to community resident groups, briefing papers primarily for policymakers and practitioners, website, blogs and twitter and an annual event with participation from housing associations, Glasgow City Council, Scottish Government, community and voluntary sector organizations, residents and academics.

Challenges for evaluating regeneration

The regeneration of areas of Glasgow meets most definitions of a complex intervention and we have faced (and sometimes overcome) multiple challenges in this evaluation. We present these challenges under four headings:

1. Interventions: definition, changing phasing, nature of the interventions over time and likely effects on health and its social determinants
2. Recipients: identification of the recipients of the intervention and participation in the evaluation
3. Evaluation: attribution of effect, evaluation of moving targets, definition of pragmatic controls
4. Stakeholders: tensions and changing policy and practitioner priorities.

Challenges with the intervention

The intervention is difficult to define. It comprises multiple, interrelated activities (demolition, new builds aimed at tenure diversification, housing improvements, and social and community interventions), delivered in different ways to different people in different places and at different time points. The precise mixture and sequencing of interventions delivered to the areas and communities are not always preplanned or delivered according to plan, particularly when regeneration is implemented by a range of public sector partners without a strong governing structure in place to oversee regeneration in any one area or across the city.

The boundaries of the interventions can be 'fuzzy', as can be the boundaries of the affected areas. For example, we have found it challenging to delimit the areas affected by relocations or define a receiving community; to assess how much of a large peripheral estate can be

[1] The Scottish Housing Quality Standard consists of five broad housing criteria, which must all be met if the property is to pass. These are: 1) must be compliant with the tolerable standard 2) must be free from serious disrepair 3) must be energy efficient 4) must have modern facilities and services and 5) must be healthy, safe and secure.