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Why do local authorities undertake controlled evaluations of health impact? A qualitative case study of interventions in housing

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ABSTRACT

Objectives: A significant amount of literature documents the challenges of undertaking evaluative research on the public health impacts of interventions in the non-health sector. However, few studies have investigated why such studies are undertaken despite the undoubted challenges. Taking housing as a case study, the authors aimed to identify the factors contributing to successful evaluative research in the non-health sector.

Study design: Qualitative interview study.

Methods: Semi-structured interviews with 16 investigators involved in seven successful experimental studies of housing interventions across the UK, analysed using thematic content analysis.

Results: Intervention studies were undertaken when existing collaborative links enabled ‘windows of opportunity’ to be exploited. Although different ‘cultures of evidence’ were reported across the collaborating teams, these did not necessarily map onto the public health research/non-academic divide, and did not undermine collaborative work when all parties could gain from taking part in the research.

Conclusions: Focussing on success, rather than failure, suggests that to encourage the up-take of evaluative evidence in the non-health sector, efforts might be better directed at fostering opportunities for partnership building rather than simply on educating non-health partners in the principles of academic research.

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Introduction

There has been renewed interest in the importance of sectors such as transport, housing and urban planning to health and health inequalities. However, limitations in the evidence base for the effectiveness of interventions in these sectors to improve the public health are well documented.^{1–3} On housing, for example, one review⁴ noted the widespread consensus that housing was an essential determinant of health, but also that there were few studies of the health impacts of interventions. There is significant literature suggesting barriers to conducting evaluative research in sectors such as housing. Many of the challenges reported relate to differences between the imperatives of evidence based public health research and those of policy makers in 'non-health' sectors. First, what is understood as 'evidence' may vary across organisational and institutional contexts^{5,6} with decision makers in non-health sectors reported as being sceptical about an 'evidence based' agenda.⁷ Second, methodological and political challenges have been well reported,⁴ including the mismatched aims and timescales of policy making and academic research^{8,9} and policy imperatives that may prioritise outcomes other than health.¹⁰ Third, high quality evaluation requires resources and skills which may not be available.¹¹ Finally, within local government sectors such as housing, evaluation may simply be perceived as inappropriate because interventions are seen as self-evidently promising.¹²

If the barriers to generating, and utilising, evaluative evidence have been well aired there has been rather less attention paid to when, how and why things work. Some evaluative studies do get undertaken, and successful collaborations between academic research and policy or provider organisations are possible. Using housing as an example, this study aimed to identify what factors might facilitate the development of the evidence base on the effectiveness of interventions in non-health sectors by focussing specifically on successes, rather than failures. By interviewing investigators and collaborators who had been involved in controlled studies of interventions in housing, the authors aimed to identify the necessary and sufficient factors contributing to undertaking an evaluation.

Methods

Taking housing as a case study, the authors aimed to identify the factors contributing to successful evaluative research in the non-health sector. They defined 'success' pragmatically, as evaluations which had been implemented, with the results published in peer-reviewed journals and further explored meanings of 'success' in the interviews. Using a systematic review of published intervention studies¹³ in housing as a starting point, they identified studies which included health outcomes, and which utilised a controlled design: either a randomised controlled trial (RCT) or an evaluation of a natural experiment. From this list, seven studies were purposively selected within the UK to include studies of large and small scale interventions and studies which found evidence and 'no evidence' of effect. For each sampled study, the principal investigator and at least one other participant who was

involved in the study (e.g. research user or non-academic collaborator) were interviewed. A total of 16 interviews were undertaken, including four public health specialists, seven academics, four local authority employees and one national authority employee.

Semi-structured interviews used a topic guide to elicit information on: how and why a controlled study was undertaken; where the idea came from; who was involved; what the benefits had been to them and their institution; why they got involved; and views on what inhibits and facilitates research in the non-health sector. With participant consent, interviews were audio-recorded and transcribed. Transcripts were analysed using thematic content analysis¹⁴ with each transcript read by at least two of the authors. Emergent themes were discussed by the team. To protect confidentiality in a relatively small field, tabulated details of the studies or participants have not been included, and identifying details have been removed from quoted extracts of interviews, except for institutional location and type of study described.

Results

The housing interventions included within this sample ranged from large scale regenerations including demolition, to smaller interventions in housing stock, such as the installation of ventilation systems. The scale of funding for the evaluations was similarly broad, ranging from 'very little' ('about £15,000 for admin support') for one RCT, to 'up to a million or more'.

Challenges

Participants in this study mentioned similar challenges to conducting controlled evaluations that have been widely reported elsewhere; making general comments about the different priorities, expectations or 'cultures' of the different collaborating partners:

The local authority they always want, you know like pragmatic, and it's got to be you know value for money... And from a public health perspective it needed to be sort of evidence based and quite focused really on improving public health (Public health, RCT)

Other difficulties mentioned included: academics' anticipation that local authority partners desired 'positive' and unambiguous findings; the different timescales of academic and policy relevant work; the accountability of local authority officers to various stakeholders e.g. voters at upcoming elections; and the lack of uncertainty. One housing officer involved in an RCT, for example, recalled disquiet at a randomisation process that resulted in the allocation of resources to 'six bedroom houses' in the face of greater need.

'Culture differences' are overstated and 'barriers' are not necessarily overcome

However, these 'culture differences' were as evident within as across professional and institutional contexts. For the academic respondents, the characterisation of public health

research as operating solely in a more neutral, scientific discourse where political concerns are not an issue, and in which there is consensus around scientific methods, was recognised as a simplistic and idealised view. On occasion, divisions within academic teams were as challenging as those between academic researchers and local government collaborators: 'we weren't altogether happy within the research team' (Academic, RCT). These divisions related to scientific debates around appropriate methods and (in the opinion of some) a lack of any widespread understanding of evaluation science:

I don't think there's a great grasp of study design, even amongst academics... I don't think people read papers in great detail... unless you're somebody who does systematic reviews (Academic, RCT)

The logic of RCT design was discussed as rather more contingent in practice than in principle, with academics discussing the necessity for flexible approaches to study design. This was evidenced, for instance, in outcomes that had been included or revised after data collection had taken place. There were a number of (often off the record) admissions that the published paper was an inevitably sanitised version of the 'messiness that's hidden' in the actual conduct of the study:

...there were inevitably sort of various inclusions and exclusions and a bit of trading that went on (Public health specialist, RCT)

One particular area of dissent involved incorporating qualitative elements of an evaluation, which (for some academics) were at times more 'telling' than the quantitative outputs, but not so easily accepted as 'evidence of effect', meaning that (for one) the RCT 'very much underestimates the value of the work'.

If academic public health researchers were sometimes less wedded in practice to a discourse of scientific consensus and formal protocol-driven design than one would expect, the non-academic partners were perhaps also less antagonistic to the principles of robust experimental design than the 'culture differences' assumptions would suggest. Indeed, communicating and understanding the requirements of controlled evaluations was rarely identified as problematic in practice. Most academics reported that methodological principles such as the rationale for randomisation were largely accepted by other partners, including the public, and local authority officers responsible for delivering interventions:

[on randomisation] They had no quibble with it whatsoever. They understood immediately why we'd adopted that design. (Public health specialist, RCT)

In one setting, a public event at which intervention house numbers were pulled out of a hat, the randomisation method was described as a very intuitive way of demonstrating the 'fairness' of random allocation to the public. Indeed, in one case, it was the academic partner who found the principle of randomisation least acceptable in practice, citing ethical discomfort with the proposed sampling processes suggested by their local authority partner:

[The local authority partner] just said, said, 'no, well, if, if that's the best way of doing it that's how we'll do it'. And I said, 'well, we'll have to ask the residents.' And he said, 'why?' ... if I'd been him I would have said, 'well, no, we can't really do that. I think we'll go for houses with big families or something first' or 'we'll do it street by street'. But that's what he said. You choose the method, and we'll fit in with you (Academic, RCT)

Participants from non-academic sectors were adept at describing the range of research designs utilised in these studies, from evaluations of natural experiments to step wedge designs (where there is a sequential roll-out of an intervention) of home improvements. They were also largely supportive of the need for robust designs for evaluations:

It was all based on numbers, so there was no contamination... and we couldn't change that, otherwise it would have put a spanner in the works^c for the whole evaluation (Local authority, RCT)

Facilitators: opportunities and pre-existing collaborative networks

Unusual events, such as large scale urban regeneration, were one incentive for local authorities to approach academics to collaborate and were seen as a 'unique opportunity' to assess economic costs and benefits, and to add 'credibility' to evaluations they would have to do anyway. By extension, these factors were often what influenced local authorities' agreement to collaborate when they were approached by academics or public health practitioners. These approaches were usually between collaborators who already had links:

I mean I've worked with people in local government for years on lots of public health issues and so it's, you know, quite natural for us to sort of discuss and do things together. (Academic, Natural Experiment)

It's all a question really of having the relationship to begin with (Public health specialist, RCT)

These networks, particularly the informal relationships between employees at a range of levels across each sector, were considered essential. Indeed, these networks were sometimes where the ideas for evaluative research were originated, and in which future collaborative opportunities were anticipated. For example, in one of the studies the idea for both the intervention and the evaluation came from the pre-existing relationships between the academics and the public health collaborators. The ideas were then formalised into a proposal for funding, and the collaborators approached the local authorities, who were enthusiastic about the potential cost effectiveness of evaluating the intervention:

Since the first RCT we did ... we'd gone for coffee and so on and so forth, we just kept up, 'hi, and how are things going?' And the

^c 'put a spanner in the works' is a colloquialism in the UK to describe something that has caused a lot of trouble.

idea for the [trial] ... came out of a coffee and a gossip sort of conversation. I'm not sure it came out of any sort of formal, um, let's talk about research forum. (Public health specialist, RCT)

Pre-existing networks were the nucleus needed to mobilise the larger networks needed to make the evaluation happen. Effective evaluations relied on assembling the resources, goodwill and engagement of a diverse range of local actors. These could include, for instance, not just local authority housing and maintenance staff, but also local health providers, the trust, residents' associations, and (for some interventions) manufacturers and installers of equipment. One local authority employee for instance detailed the work needed to ensure the intervention (a home improvement) was delivered in a way to enable the outcomes to be gathered in a timely way:

We paid for the [installation]... my officers dealt with the technical aspects ... the builders, the procurement, the design... we visited the properties ... letters went out to all GP surgeries then [colleague] did the legwork, knocking on doors to [get] people [to fill in the questionnaire] (Local authority employee, RCT)

Largely missing from accounts were clear 'champions' or charismatic individuals attributed with the success of the project. Although some interviewees did name specific people as crucial to the project getting off the ground, or for generating enthusiasm, many interviewees could not remember, or did not know, whose idea a project was originally, and across the same project, different individuals were named by different partners as instigators. More common were accounts which stressed the positive nature of the team work involved: 'the team were lovely, just lovely' (Academic, Natural Experiment), 'we were singing off the same hymn sheet' (Local authority employee, RCT).

What was gained by various participants?

In general, participants described indicators of 'success' for academics as publishable results, and those for intervention providers as relating to positive results; that interventions 'worked'. In principle, then, a lack of measurable evidence of effect for interventions could be problematic. However, in the specific examples discussed, the evaluation findings were rarely considered the primary indicator of whether the intervention 'worked' or not:

I think people expected there to be a bigger difference but it wasn't statistically, err, significant, which is, do you know is [laugh] is a different thing. Um, it doesn't mean that there wasn't a difference... You know, this works. (Local authority, RCT)

Overall, all partners typically claimed gains from their involvement, whether results were positive (for health effects) or not. In one evaluation, which did not identify any associations between the intervention and health outcomes, both academic and public health partners reported benefits for them from the 'kudos' of involvement in a successful trial in this setting, and for the residents, who gained direct benefit from the intervention itself:

I think as long as they kept within budget and got their houses upgraded, erm, that was, that was what they wanted to do ... [and] it's a very good example of a randomised trial in a community setting (Academic, RCT)

It really was one that demonstrated you could do this (Public health, RCT)

Even when there was evidence of a health effect from the intervention, other aspects of the collaboration were typically cited as greater gains for the partners than the research results. In one study, for example, each of the collaborators had won an award for their involvement;

For the partnerships around the table we've won an award for the NHS, award for local government and award for academia as well (Public health specialist, RCT)

For residents and the local authority, direct material benefits from involvement could include resources leveraged by being involved in a trial: for example cheaper installations of an intervention from a manufacturer because the installation was being evaluated. The very fact that a formal evaluation had taken place was important for many local authority partners, demonstrating not only the ability of its officers to deliver on a project that might have national focus, but also promoting the local authority itself as innovative or forward thinking:

You know, and as local government officers, we're trying to, sort of, be unique, innovative, think outside the box, keep one step ahead of the game. (Local authority employee, RCT)

The Housing Officers did get a lot of mileage out of it [and] nationally it put [the local authority] on the map (Public health specialist, RCT)

Change and the future

In interviews about studies that had been completed some years earlier, participants reflected on changes that might be barriers to similar evaluations in the future. Two themes that emerged were the growing 'professionalisation' of research, and current resource constraints. For some academics, the increasing administrative burden of securing funding for evaluations had replaced what one described as 'a cottage industry [in which people] weren't as professional as they are now'. The 'muddling through' approach, which had been so successful in their particular example, would no longer work in an era where research governance was more onerous:

But why can't I just talk to one statistician and we'll get something together? But you can't, it's got to go through the whole process. (Academic, RCT)

This professionalization had also increased costs of evaluations. One intervention, successfully evaluated with little external funding, had been undertaken largely by academic, public health and housing department partners committing time to it from their everyday jobs or as part of research

degrees: 'It was people who were interested in the project and they thought it was worthwhile' (Public health, RCT). For those in local authorities, the key challenge for future evaluations was that of cost containment and the burden of restructuring, which reduced the ability of the local authority to take risks, and reduced both the time available for networking and, through restructuring, often the network itself.

Discussion

There have been many calls for more evaluative evidence on the upstream determinants of health^{15,16} with a consequent focus on the barriers to the production (and uptake) of research evidence. Whilst this focus has been useful in outlining the challenges to collaborative evaluative research, there are limitations in extrapolating facilitators from research on barriers. For example, it was not clear whether the absence of known barriers was sufficient for evaluations to take place. Neither is it known whether the reported 'barriers' are also evident where there have been successful evaluations. That is, rationales for failure may not be reasons for failure. In asking why evaluative studies do sometimes get undertaken, this study has identified some factors which resonate with the literature, but also some which suggest a slightly different way forward. Findings suggest that to foster the conditions for strengthening the evidence base on the determinants of health, a focus on why evaluations do happen is timely.

First, it is notable that despite reporting facing similar challenges to practitioners in studies of why evaluations are not undertaken, the participants in this study were describing successes. The 'barriers' detailed were not, it seems, insurmountable. Or, rather, even if they were not 'surmounted', they did not prevent evaluative evidence being generated and published. In particular, it is clear that 'lack of understanding of the need for evaluative evidence was neither a particular barrier, nor as tied to institutional setting as is often assumed (by both the literature and interviewees in this study). Indeed, there was more understanding amongst non-academics surrounding research design rationales than might have been anticipated. Conversely, academic research was often described as more flexible and 'messy' than published papers suggest. Different 'cultures of evidence' across academic and practice sectors were reported, but were not, it seems, barriers to the particular study in question. Similarly, that 'success' was differently framed across collaborating institutions was not, in practice, a barrier. Both academic and local authority partners reported that anecdotal, qualitative work and common sense might be more appropriate indicators of success than the quantitative results of the evaluation.

Importantly, most of the studies in this sample were reported as arising from ongoing networks. While it is not surprising that successful collaborations are likely to foster subsequent attempts at joint work, what was interesting was that the ideas for evaluations sometimes arose organically through the maintenance of these relationships. Crucially, ongoing networks allowed the partners to exploit 'windows of opportunity' where funding calls, or planned interventions, provided the possibility for evaluation.

Strengths and weaknesses of this study

A strength of this study is that it focused on the facilitators of exactly the type of evidence which is often advocated for – evaluations of interventions, particularly RCTs. Given the aim of identifying factors that facilitate the generation of evidence, a key strength of the study was focused on what did happen, rather than on accounts of barriers. However, a weakness is that the study was reliant on posthoc reconstructions of events. Although different accounts from the same study were used to validate empirical details, these accounts are still vulnerable to the risk of generating 'rationales of success' and it was not known that whether the same factors were also present in teams which were not 'successful'.

A second limitation is that the evidence comes from evaluations that were completed, and thus instigated before the recent move of public health to the local authority and (for some) before recent funding constraints. New institutional contexts and the intensification of work in resource-constrained settings may well have an impact on the ability of all collaborators to engage in the kind of informal networking that fosters 'windows of opportunity' in the future.

The rationale for selecting housing as a case study was that it is a key determinant of health on which there is some, however limited, evaluative evidence. Although these findings may be generalisable to other non-health sectors (indeed many of the interviewees were active in other areas), other factors (e.g. the availability of funding, or of academic journals in the field) may well shape the comparative ease of securing funding and undertaking evaluative research.

Conclusion

Exploring 'success' rather than 'failure' has enabled a rather different light to be shed on the issue of how to foster evaluation in the non-health sector. The authors suggest that for public health practitioners interested in developing the evidence base for areas such as housing, the question is not one of 'challenges to be overcome', but opportunities available to collaborate or network. Specifically, there may now be diminishing returns on focussing efforts on education about the need for controlled designs for evaluation. A more productive way forward might be to maximise the potential for the right conditions for evaluations to happen. From the interview accounts, these are likely to be: an existing network of collaborators who can take advantage of windows of opportunity for evaluations, and with the commitment, resources and trust to mobilise the larger networks needed to deliver it. In England, where many of these studies were undertaken, public health is now located within the local authority. In principle, this provides a fertile ground for developing such networks. The flow of better evaluation evidence could be increased if academics were to focus more on developing these networks, and in finding and developing common areas of interest between practitioners in local authorities and public health researchers. In the long run this may be more fruitful than emphasising differences and

fostering the view that evaluation research is difficult. This qualitative study suggests that there may be more common ground, and more windows of opportunity, than are sometimes realised.

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Ethical approval

The study was approved by the LSHTM Ethics Committee (approval number 6296).

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Competing interests

The authors have no relevant interests to declare.

Contributors

SM, MP, JG each contributed to the design of the study; SM and JG were involved in the data collection and analysis; all authors were involved in drafting, revising and approving the final paper. SM will act as guarantor.

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