

# Community engagement to reduce inequalities in health: a systematic review, meta-analysis and economic analysis

A O'Mara-Eves,<sup>1</sup> G Brunton,<sup>1</sup> D McDaid,<sup>2</sup>  
S Oliver,<sup>1</sup> J Kavanagh,<sup>1</sup> F Jamal,<sup>3</sup> T Matosevic,<sup>4</sup>  
A Harden<sup>3,5</sup> and J Thomas<sup>1\*</sup>

<sup>1</sup>Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre), Social Science Research Unit, Institute of Education, London, UK

<sup>2</sup>Personal Social Services Research Unit and European Observatory on Health Systems and Policies, London School of Economics and Political Science, London, UK

<sup>3</sup>Institute for Health and Human Development, University of East London, London, UK

<sup>4</sup>Personal Social Services Research Unit, London School of Economics and Political Science, London, UK

<sup>5</sup>Barts Health NHS Trust, London, UK

\*Corresponding author

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## Scientific summary

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# Scientific summary

## Background

Historically, professionals developed strategies to promote health with little or no input from the targeted populations. However, community engagement has more recently become central to guidance and national strategy for promoting public health. Defined here as involving communities in decision-making and in the planning, design, governance and delivery of services, community engagement activities can take many forms, including service user networks, health-care forums, volunteering or interventions delivered by trained peers.

Given the increasing policy support for community engagement, it is critical to consider whether such strategies are effective and under what circumstances. However, the evidence base supporting the effectiveness and cost-effectiveness of community engagement strategies is fragmented and of uncertain quality. Further, it is thought that, by improving social capital and reducing isolation, some social inequalities that underpin health inequalities could be reduced, and health improved. This review aims to explore whether community engagement is a useful strategy for improving – directly or indirectly – the health of disadvantaged groups.

## Objectives

This study aimed to identify community engagement approaches that improve the health of disadvantaged populations or reduce inequalities in health and to describe the populations and circumstances in which the interventions work and the costs associated with their implementation. It asked the following research questions (RQs):

- RQ1: What is the range of models and approaches underpinning community engagement?
- RQ2: What are the mechanisms and contexts through which communities are engaged?
- RQ3: Which approaches to community engagement are associated with improved health outcomes among disadvantaged groups? How do these approaches lead to improved outcomes?
- RQ4: Which approaches to community engagement are associated with reductions in inequalities in health? How do these approaches lead to reductions in health inequalities?
- RQ5: Which types of intervention work best when communities are engaged?
- RQ6: Is community engagement associated with better outcomes for some groups than others? (In particular, does it work better or less well for children and young people?)
- RQ7: How do targeted and universal interventions compare in terms of community engagement and their impact on inequalities?
- RQ8: What are the resource implications of effective approaches to community engagement?
- RQ9: Are better outcomes simply the result of increased resources, or are some approaches to community engagement potentially more cost-effective than others?

RQ1 and RQ2 were addressed through a theoretical synthesis of models and mechanisms; RQ3–9 through meta-analysis and thematic syntheses of the evidence; and RQ8 and RQ9 through economic analysis of costs and resources data.

## Methods

User involvement was integrated throughout the project. An advisory group was consulted regarding the review's conceptual framework and analytical strategies, and they suggested potentially useful research to include in syntheses. Local young people's advocacy groups were consulted for their perspectives on barriers to and facilitators of community engagement for health inequalities.

We searched for systematic reviews and primary research from 1990 in August 2011 using several sources, including specialist registers [Cochrane Database of Systematic Reviews (CDSR), The Campbell Library, Database of Abstracts of Reviews of Effects (DARE), National Institute for Health Research Health Technology Assessment (HTA) programme website, HTA database, NHS Economic Evaluation Database (NHS EED) and the Evidence for Policy and Practice Information and Co-ordinating Centre's (EPPI-Centre) Trials Register of Promoting Health Interventions (TRoPHI) and Database of Promoting Health Effectiveness Reviews (DoPHER)], key contacts and citation searching.

A review was included if it:

1. was published after 1990 (in line with previous related reviews)
2. was a systematic review (i.e. describe search strategies and inclusion criteria used)
3. included outcome or process evaluation studies
4. described one or more interventions relevant to community engagement
5. was written in English
6. measured and reported health or community outcomes.

Full-text reports of all reviews meeting these criteria were retrieved and their summary tables were scanned to locate relevant trials. All full-text reports of relevant trials were retrieved and screened. A report was included if it:

1. reported primary research
2. was not a Master's thesis
3. included intervention outcome, economic, and/or process evaluations
4. focused on community engagement as the main approach
5. contained a control or comparison group
6. characterised study populations/reported differential impacts of social determinants of health captured by the PROGRESS-Plus framework (i.e. Place of residence, Race/ethnicity, Occupation, Gender, Religion, Education, Socioeconomic position, Social capital, plus other characteristics that attract discrimination such as age, disability and sexual orientation)
7. reported health or health-related (including cost) effectiveness outcomes and/or process data.

Data were extracted on models, approaches and mechanisms of community engagement; health topic; participant characteristics; geographical and contextual details; costs and resources; and processes. Effect size estimates for participants and engagees (when available) were calculated, adjusting for cluster allocation when necessary. Outcome evaluations were assessed for methodological quality using a modified Cochrane risk of bias assessment tool. Process evaluation methodology quality assessment was undertaken using an existing EPPI-Centre tool.

Data were described and synthesised in a map of the evaluative and theoretical literature that describes the scale and range of community engagement interventions; a statistical meta-analysis and a thematic synthesis of process evaluations of a subset of evaluation studies focused on health inequality policy priority areas; an economic analysis of costs and resources; and a theoretical synthesis to produce a newly developed, broad conceptual framework that brings together the learning from the preceding syntheses.

## Results

### Map

A total of 361 reports of 319 studies were described in the map. Most of the included trials (268 studies, 84%) were undertaken in the USA; 26 studies (8%) conducted in the UK. Young people were studied most often (180 studies, 56%), followed by adults (168 studies, 53%). The most frequent category of disadvantage was ethnicity (120 studies, 38%), with 109 of these studies carried out in the USA; the most frequent category of disadvantage in the UK was socioeconomic position (eight studies), followed by ethnicity (four studies). Participants often were categorised as having more than one type of disadvantage. Interventions were most often targeted to a specific PROGRESS-Plus group (238 studies, 75%) rather than to a wider population. Interventions to address the prevention of human immunodeficiency virus/acquired immunodeficiency syndrome/sexually transmitted infections were most often described (51 studies, 16%), followed by cancer screening/protection (41 studies, 13%) and substance abuse (22 studies, 7%).

### Theoretical models

Three overarching conceptualisations of engagement have emerged, which combine aspects of purpose, theory and the way that many interventions occur in practice:

1. *Patient/consumer involvement in development.* This involves engagement with communities, or members of communities, in strategies for service development, including consultation or collaboration with the community about the intervention design. Such models hold the underlying belief that the intervention will be more appropriate to the participants' needs as a result of incorporating stakeholders' views.
2. *Peer-/lay-delivered interventions.* This involves services engaging communities, or individuals within communities, to deliver interventions. In this model, change is believed to be facilitated by the credibility, expertise or empathy that the community member can bring to the delivery of the intervention.
3. *Empowerment of the community.* Empowerment models require that the health need is identified by the community and that they mobilise themselves into action. These models have the underlying belief that, when people are engaged in a programme of community development, an empowered community is the product of enhancing their mutual support and their collective action to mobilise resources of their own and from elsewhere to make changes within the community.

### Meta-analysis of effectiveness studies (outcome evaluations)

The results of the meta-analysis suggest that public health interventions using community engagement for disadvantaged groups are effective in terms of health behaviours, health consequences, participant self-efficacy and perceived social support outcomes. These findings appear to be robust and not due to systematic methodological biases. There are also indications from a small number of studies that interventions can improve outcomes for the community and the engagees.

We qualify this overall statement with the observation that there is significant variation in the effectiveness of interventions – some interventions were more effective than others, and not all interventions benefited the participants. We tested a set of predetermined variables that we hoped might explain this variance and address the research questions posed. Very few of these variables were statistically significant in explaining differences between interventions. Interventions conducted in community settings were significantly less effective than those not conducted in community settings, and longer interventions were significantly less effective than interventions that are shorter in duration (although this is likely to be confounded by levels of exposure or intensity of contact with the intervention deliverer). Other (non-significant) trends were identified that are likely to be useful when designing future interventions; these relate to theories of change, number of components in the intervention, health issue being addressed, intervention setting, intervention strategy, age of the participants, the PROGRESS-Plus category of the participants and whether the intervention is targeted at a particular PROGRESS-Plus group.

It is important to note that, in most instances, the comparator for an intervention was not the health promotion activity without the community engagement mechanism, but often a completely different multicomponent intervention.

Supplementary analyses suggested that the number of participants in the intervention is associated with the observed effectiveness of the intervention. We propose that this association is likely to be confounded with different intervention approaches.

### **Thematic synthesis of process evaluations**

Of the 319 outcome evaluations, only nine had integral process evaluations (i.e. those conducted alongside outcome evaluations). These process evaluations were of low to medium methodological quality. Authors did not consistently link findings to data, and they sometimes went beyond findings when drawing conclusions. We found it challenging to capture the complexity of processes because of the varied nature of the interventions and community engagement activities.

The thematic synthesis offered several insights into factors affecting process, which included:

- *Acceptability.* Community-designed or community-delivered interventions, or culturally relevant programme materials, tend to be more acceptable, which authors suggested influenced programme success.
- *Consultation and collaborations.* Successful partnerships and efforts to build relationships between partners appear to influence programme outcomes.
- *Costs.* Paying community members and participants influences participation. Some coalitions were able to win external funding, helping the programmes to be sustainable and 'owned' by communities beyond initial funding periods.
- *Implementation.* Adequate and appropriate intervention timing, frequency, duration and extent of an intervention influence outcomes. Intervention types (e.g. media events vs. one-to-one counselling) can affect accessibility or reach. Good relationships between engagees and professionals providing an intervention are important to programme implementation.
- *Management and responsibility.* Good project management and specific, adequate ongoing training and support for engagees' affect implementation.

### **Economic analysis of costs and resources**

Few community engagement studies (27%) report any analysis of costs, either directly or in a supplementary paper. When costs are reported they are often not disaggregated, making it difficult to disentangle the costs of community engagement elements from all other aspects of a health-promoting intervention. Moreover, few studies distinguished between the costs of conducting research and the routine costs of delivering a community engagement intervention.

When costs are reported, most concentrate on costs of training and staff time, with little attention paid to the contribution of unpaid individuals or to in-kind contributions. One study was exceptional in accurately valuing contributions of volunteers and other in-kind contributions to an initiative to increase the uptake of breast cancer screening.

Only 21 studies could be considered economic evaluations, most of which were of limited quality and had not been undertaken intentionally as part of an economic evaluation. Only nine of these included a sensitivity analysis, and none reported any subgroup analysis to help address the issue of health inequalities by looking, for instance, at whether it is more cost-effective to target population subgroups.

Few studies included any form of modelling to assess some of the long-term costs and benefits of actions, which is particularly important because health consequences of lifestyles and health behaviours may take many years to become apparent. Only five studies looked at productivity costs and only three considered costs to family members.

No firm conclusion can be made about the economic case for community engagement. A number of largely positive economic analyses address a range of different community engagement mechanisms, but these are thinly spread across health topic areas and most have significant methodological limitations.

### ***New conceptual framework***

We iteratively developed a conceptual framework for community engagement in public health interventions to address health inequalities based on an integration of findings from previous theoretical literature, outcome evaluations, process evaluations and cost/resource evaluations.

Community engagement and health interventions overlap each other conceptually and operationally, with several dimensions of community engagement approaches being used for health interventions. These included the definitions of 'need' and 'communities'; the motivations of stakeholders; the depth, activity and extent of community engagement; the conditions for intervention; the actions undertaken by stakeholders in providing an intervention; and the impact of engaging and providing interventions.

The new conceptual model identifies a wide range of dimensions by which community engagement interventions may differ from one another, and gives us a framework within which to understand how different interventions may function.

## **Conclusions**

Overall, community engagement interventions are effective in improving health behaviours, health consequences, participant self-efficacy and perceived social support for disadvantaged groups. There are some variations in the observed effectiveness, suggesting that community engagement in public health is more likely to require a 'fit for purpose' rather than 'one size fits all' approach. We identified trends in the evidence that could provide useful directions for future intervention design and evaluation.

Although there is a trend to suggest that there is greater effectiveness of peer-/lay-delivered interventions than interventions that take an empowerment approach or those that involve community members in the design of the intervention, this finding was not statistically significant. We cannot, therefore, conclude that one particular model of community engagement or theory of change is clearly more effective than any other.

Albeit from a small number of studies, there also appear to be gains to human and social capital. There is evidence of benefits for engagees, including skills acquisition and future employment. Also, there is evidence that interventions improve participants' perceived social support.

There is weak but inconsistent evidence that different types of community engagement interventions can be cost-effective, and that implementation factors may affect intervention success. The new conceptual framework and the identification of three main theories of change can be used in intervention design and evaluation. Community engagement interventions need evaluations to include long-term assessment; the full range of potential beneficiaries; rigorous process evaluation; and collection of costs and resources data. We anticipate that these additions will help to disentangle the relative effectiveness of different models of community engagement and encourage sustainable initiatives with a lasting health legacy for the community.

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