Expert Report 1: Community engagement strategies to reduce health inequalities:
a multi-method systematic review of complex interventions.

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Project Aims

Community engagement

- Range of models and approaches

- Mechanisms and contexts

- Approaches associated with improved/reduced health outcomes

- Which types work best

- For which groups

- Targeted v. universal interventions

- Resource implications

Unpacking 'engagement'

1. Did the community identify the health need?
2. Level of engagement in design
   - Informed
   - Consulted
   - Collaborating
   - Leading
3. Level of engagement in delivery
   - Informed
   - Consulted
   - Collaborating
   - Leading

Theories of change identified in the theoretical synthesis

'Lay-delivery'
- Change is believed to be facilitated by the credibility, expertise, or empathy that the community member can bring to the delivery of the intervention.

'Collaboration or consultation in intervention design'
- The views of stakeholders are sought with the belief that the intervention will be more appropriate to the participants' needs as a result.

'Empowerment'
- Change is facilitated where the health need is identified by the community and they mobilise themselves into action.

Outcome types

- Health behaviours (n=105)
    - e.g. breastfeeding, attend cancer screening
- Health consequences (n=38)
    - e.g. mortality, diagnosis
- Participant self-efficacy (n=20)
- Participant social support (n=7)
- Also a small number of community outcomes and 'engagee' outcomes – not meta-analysed

Statistical significance

- Significant statistical heterogeneity was expected in this review

- "When operating across such a wide range of topics, populations and intervention approaches, however, there is a disjunction between the conceptual heterogeneity implied by asking broad questions and the methods for analysing statistical variance that are in our 'toolbox' for answering them"

- Potential confounding variables or interactions amongst variables made it difficult to disentangle <u>unique</u> sources of variance across the studies

- Emphasis on magnitude of the effects and trends across studies

The results
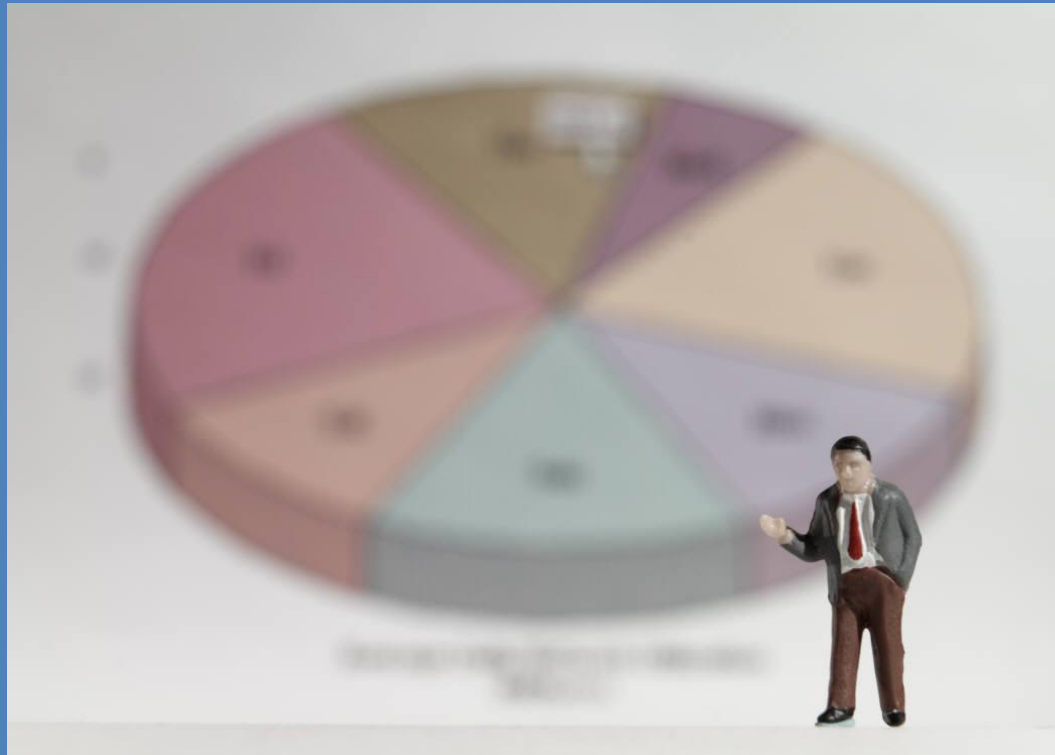
Results: Effectiveness studies (N = 131)

Countries
- 4% (n = 5) UK
- 86% (n = 113) USA
- 4% (n = 5) Canada
- 6% (n = 8) other OECD

Population/Health inequalities
- 43% (n = 56) ethnic minorities
- 26% (n = 34) low socioeconomic position
- 16% (n = 21) multiple health inequalities

Age ranges
- 60% (n = 79) young people 11-21yrs
- 50% (n = 65) adults 22-54yrs

Sex
- 60% (n = 79) mixed sex
- 37% (n = 49) predominantly female
- 2% (n = 3) predominantly male

Results: Overall mean effects

In general, interventions are effective!

Variation amongst studies needs to be explained

Outcome	Pooled effect size estimate	95% C.I.	n	τ^2	Heterogeneity	
					Q statistic	I^2
Health behaviours	.33***	.26, .40	105	.093	604.62***	82.80
Health consequences	.16**	.06, .27	38	.076	196.36***	81.16
Participant self-efficacy	.41**	.16, .65	20	.278	480.44***	96.05
Participant social support	.44***	.23, .65	7	.067	42.67***	85.94

*** p < .001
Statistical significance indicates the effect size estimate is significantly different from zero
Note. 95% CI = 95% confidence interval
n = number of effect sizes
τ^2 = between studies variance

Attempts to explain variation

- Conducted moderator and regression analyses
- Most of the analyses conducted on health behaviour outcomes only because of small number of data points
- Not unexpected: none of the variables tested were statistically significant predictors of effect.
- Emphasis on trends across the data

Moderator of effect on health behaviours: Theory of change

Theory of change	Pooled ES	95% CI	n	Average sample size (SD)
Community identified health need	.31***	.14, .48	17	1067 (226.30)
Collaboration to design more appropriate intervention	.32**	.13, .51	16	1924.91 (910.74)
Consulted to design more appropriate intervention	.25***	.12, .38	27	848.67 (184.53)
Lay-delivered to enhance credibility, expertise, or empathy	.47***	.34, .60	38	309.74 (48.21)
Other	.17	-.07, .42	7	757.14 (213.08)

Direct comparisons

- Most interventions were compared to a comparison condition that differed from the intervention in more ways than just community engagement

- For health behaviour outcomes, there were seven studies for which the only difference between the treatment conditions was the presence or absence of community engagement

- Analysis did not detect a significant difference between the studies with a direct comparison (effect size = .34) or indirect comparison (effect size = .33)

Moderator of effect on health behaviours: Marmot Review themes

Outcomes	Marmot Review theme	Mean ES	95% CI	n
Health behaviours [a]	Modifiable health risks	.24***	.11, .37	34
	Best start in life	.38***	.19, .56	24
	Prevention of ill-health and injury	.38***	.28, .48	47
Health consequences [b]	Modifiable health risks	.23**	.06, .40	17
	Best start in life	.05	-.29, .39	7
	Prevention of ill-health and injury	.12	-.06, .30	14

Other moderators tested

- Single component interventions tended to be more effective at improving health behaviours than multiple component interventions

- Universal interventions tended to have higher effect size estimates for health behaviour outcomes than targeted interventions.

Features of the interventions

- Interventions conducted in non-community settings tended to be more effective than those in community settings for health behaviour outcomes.

- Interventions that employed skill development or training strategies, or which offered contingent incentives, tended to be more effective than those employing educational strategies for health behaviour outcomes.

- Interventions involving peers, community members, or education professionals tended to be more effective than those involving health professionals for health behaviour outcomes.

- Shorter interventions tended to be more effective than longer interventions for health behaviour outcomes; this is probably confounded by levels of exposure or intensity of contact with the intervention deliverer.

Conclusions

- Overall, public health interventions using community engagement strategies for disadvantaged groups are effective in terms of health behaviours, health consequences, participant self-efficacy, and participant perceived social support.

- These findings appear to be not due to systematic methodological biases.

Conclusions

- However, unexplained variation exists amongst the effect sizes

- "...the evidence suggests that community engagement in public health is more likely to require a 'fit for purpose' rather than 'one size fits all' approach."

Conclusions

- Strengths
  - We were able to look at community engagement for this population and show a marked effect

- Limitations
  - Broad scope didn't enable us to identify the 'active ingredients' of community engagement (which components work?)

- More work to be done to understand more about which components contributed to effectiveness
  - Different methods of analysis may be required
  - Theories of change need further development

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The complete review is available to download at
http://www.phr.nihr.ac.uk/