Collated Evidence Statements and Overview of Economic Evidence

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Review 1: 'Community engagement for health via coalitions, collaborations and partnerships – a systematic review (component 1)' – (Update of O'Mara-Eves)

This set of evidence statements sought to address the following research questions:

RQ1. How effective are community engagement approaches at improving health and well-being and reducing health inequalities?

RQ2. Across disadvantaged groups, how effective are community engagement approaches at encouraging people to participate in activities to improve their health and well-being and realise their capabilities?

Evidence Statement 1.1: High community engagement

Evidence has been sourced from four health interventions that target disadvantaged American communities employing a 'high' extent of community engagement.1-4

ES 1.1.1 There is weak evidence from two studies for the beneficial effect of health interventions on clinical outcomes. One study reported evidence of beneficial trends for an intervention that targeted healthy eating and diabetes prevention, but the findings were not statistically significant (Islam et al. 2013). The other study on weight loss and diabetes prevention reported beneficial effects or trends for some outcomes (weight, waist circumference and blood glucose) but not for others (measures of systolic and diastolic blood pressure, fasting glucose and % haemoglobin) (Parikh et al. 2010).

ES 1.1.2 One intervention study on healthy eating and diabetes prevention reported a positive trend on health/social measures but the findings did not reach statistical significance (Islam et al. 2013).

ES 1.1.3 Overall, there was moderate evidence for the behavioural outcomes. Three studies reported beneficial effects and trends of beneficial effects for an interventions that targeted healthy eating (Cohen et al. 2013), diabetes prevention (Islam et al. 2013), and risky sexual behaviour (Berg et al. 2009). One study reported no change for a weight loss and diabetes prevention intervention (Parikh et al. 2010).

ES 1.1.4 There was weak evidence for self-efficacy outcomes from three studies. Beneficial effects were reported in a intervention study on the reduction or delayed onset of drug and sexual risk behaviour (Berg et al. 2009) and beneficial trends in a study on weight loss and diabetes prevention (Islam et al. 2013). No change was reported in one study targeted healthy eating and diabetes prevention amongst Korean American adults (Parikh et al. 2010).

ES 1.1.5 For the behavioural belief outcomes, there was weak evidence from two intervention studies that targeted healthy eating/weight loss and diabetes prevention. Islam et al. (2013) reported beneficial effects for one measure of diabetes knowledge and positive trends for five other measures (knowledge of portion control, knowledge of preparation/buying; knowledge of planning; attitude to how healthier foods taste). Parikh et

al. (2010) reported positive trends for two measures (juice intake, soda intake), a negative trend for knowledge of benefits of lettuce salad and no change for four knowledge outcomes (physical activity, fat intake, fruit intake, diet sodium intake).

1. Berg et al. (2009) [+,+]; 2. Cohen et al. (2013) [-,+]; 3. Islam et al. (2013) [+,+]; 4. Parikh et al. (2010) [+,+]

Evidence Statement 1.2: Moderate community engagement

Evidence has been sourced from 12 health interventions that target disadvantaged communities employing 'moderate' community engagement (9 US; 2 UK; 1 Sweden).1-12

ES 1.2.1 There was weak evidence for clinical outcomes from one intervention study on healthy eating/physical activity that reported a positive trend for waist circumference but not for BMI (Bergstrom et al. 2013).

ES 1.2.2 Overall there was mixed evidence for health/social outcomes from five studies. Two studies reported beneficial effects for interventions that targeted food security and healthy eating (Martin et al. 2013) and substance use (Bonell et al. 2010). In the other studies, negative effects or trends of effects and no change were observed. In one study that examined a healthy eating, physical activity and mental health intervention, a negative trend was reported (Phillips et al. 2014). In another intervention that targeted mental health, a statistically significant negative effect was reported for social integration but there was no change for two assessments of mental well-being (Segal et al. 2011). One intervention study that targeted healthy eating and physical activity reported no change (Bergstrom et al. 2013).

ES 1.2.3 Overall there was moderate evidence for behavioural outcomes. Eight studies reported beneficial effects or trends (intervention type reported in square brackets): Bonell et al. 2010 [substance use]; Chen et al. 2013 [cancer prevention]; Kieffer et al. 2013 [healthy eating, physical activity and mental health]; Rhodes et al. 2011 [HIV/STI]; Martin et al. 2013 [healthy eating and food security]; Phillips et al. 2014 [healthy eating, physical activity and mental health]; Andrews et al. 2012 [organ donation]; Harper et al. 2009 [HIV/STI]. Two studies reported mixed findings. Bergstrom et al. (2013) evaluated an intervention on healthy eating and physical activity and reported beneficial effects for physical activity, beneficial trends for food diversity and no change for plate model meals. Plescia et al. (2008) evaluated an intervention on diabetes prevention, physical activity and healthy eating and reported beneficial effects for fruit and vegetable consumption and negative effects or trends of effects for smoking and physical activity. In another study on seatbelt use, the data was measured but not reported (Wermert et al. 2012).

ES 1.2.4 Overall, there was moderate evidence of beneficial effects on self-efficacy. Two studies reported beneficial effects or trends of beneficial effects (country, risk of bias and intervention type reported in square brackets): Bonell et al. 2010 [substance use]; Martin et al. 2013 [healthy eating and food security]. In Harper et al. (2009), beneficial effects for self-efficacy were reported but there was no difference between the intervention and control

groups on sexual assertiveness and sexual decision making. In one study that targeted mental illness, a negative effect on self-efficacy outcomes was reported (Segal et al. 2011).

ES 1.2.5 Overall, there was moderate evidence of beneficial effects for behavioural beliefs. Four studies reported beneficial effects or trends on behavioural beliefs (intervention type reported in square brackets): Bonell et al. 2010 [substance use]; Chen et al. 2013 [cancer prevention]; Harper et al. [HIV/STI] and Rhodes et al. 2011 [HIV/STI]. One study measured behavioural beliefs but did not report data for these outcomes: Wermert et al. 2012 [seatbelt use].

1. Andrews et al. 2012 [-,+]; 2. Bergstrom et al. 2013 [++,++]; 3. Bonell et al. 2010 [++,+]; 4. Chen et al. 2013 (+,+); 5. Harper et al. 2009 [-,+]; 6. Kieffer et al. 2013 [+,++]; 7. Martin et al. 2013 [-,++]; 8. Phillips et al. 2014 [+, +]; 9. Plescia et al. 2008 [-,+]; 10. Rhodes et al. 2011 [+, +]; 11. Segal et al. 2011 [+, +]; 12. Wermert et al. 2012 [-,+]

Evidence Statement 1.3: Low community engagement

Evidence has been sourced from 12 health interventions (9 US; 1 Australian; 1 Danish; 1 Norwegian) that targeted disadvantaged communities employing 'low' community engagement.1-12

ES 1.3.1 Overall there was strong evidence of beneficial effects for clinical outcomes. Seven studies reported beneficial effects or trends (intervention type reported in square brackets): Anderson et al. 2013 [diabetes prevention and physical activity]; Dzewaltowski et al. 2010 [obesity prevention/management]; Eades et al. 2012 [cancer prevention]; Hoelscher et al. 2010 [obesity prevention/management and physical activity]; Lassen et al. 2011 [healthy eating]; Woods et al. 2013 [healthy eating and physical activity]; Zoellner et al. 2013 [healthy eating and physical activity]. In a study on obesity prevention/management and physical activity, Wright et al. (2013) reported beneficial effects or trends for BMI but there was no difference between the intervention and control groups on waist circumference for girls and boys.2 Two measures were assessed but not reported (blood pressure changes in girls and boys). In a study on obesity prevention/management, healthy eating and physical activity, Kong et al. (2013) reported beneficial effects or trends for six measures (BMI; waist circumference; moderate or vigorous physical activity; good cholesterol; fasting insulin, insulin resistance index), and a negative effect for fasting glucose.

ES 1.3.2 Overall, there is moderate evidence for the beneficial effects of health interventions on health/social measures. Two studies that targeted access to health care (Kneipp et al. 2011) and cancer prevention (Russell et al. 2010) reported beneficial effects or trends on health/social measures. Zoellner et al. (2013) reported positive trends for social support for physical activity and for nutrition. Quality of life was also assessed but the data for this outcome was not reported.

ES 1.3.3 Overall there is mixed evidence for the beneficial effect of health interventions on behavioural outcomes. Six studies reported beneficial effects or trends on behavioural outcomes (intervention type reported in square brackets): Anderson et al. 2013 [diabetes

prevention and physical activity]; Dodge et al. 2013 [child health], Cohen et al. 2013 [physical activity]; Kneipp et al. 2011 [healthcare utilisation]; Lassen et al. 2011 [healthy eating]; Russell et al. 2010 [cancer prevention]. Five studies reported mixed findings including a combination of positive and negative or no between-group intervention effects: Dzewaltowski et al. 2010 [obesity prevention or management]; Hoelscher et al. 2010 [obesity prevention/management and physical activity]; Kong et al. 2013 [obesity prevention/management, healthy eating and physical activity]; Wright et al. 2013 [obesity prevention/management and physical activity]; Zoellner et al. 2013 [healthy eating and physical activity].

ES 1.3.4 Only one study assessed self-efficacy outcomes. In a study on healthy eating and physical activity, Zoellner et al. (2013) reported a negative trend for physical activity self-efficacy and no difference between groups on self-efficacy for nutrition.

ES 1.3.5 No included studies assessed the impact of health interventions on behavioural beliefs.

1. Andersen et al. 2013 [++, ++]; 2. Dodge et al. 2013 [+,++]; 3. Dzewaltowski et al. 2010 [+, +]; 4. Eades et al. 2012 [-,+]; 5. Hoelscher et al. 2010 [-,+]; 6. Kneipp et al. 2011 [-,+]; 7. Kong et al. 2013 [+, +]; 8. Lassen et al. 2011 [+, -]; 9. Russell et al. 2010 [-,+]; 10. Woods et al. 2013 [-,+]; 11. Wright et al. 2013 [+, +]

Evidence Statement 1.4: Community engagement with children and youth

Evidence has been sourced from six health interventions involving children and youth from disadvantaged communities.1-6

ES 1.4.1 Overall, there was weak evidence for clinical outcomes. One study that targeted childhood obesity and physical activity reported beneficial effects (Hoelscher et al. 2010). In another study on obesity prevention/management and physical activity, Wright et al. (2013) reported mixed findings, with beneficial effects or positive trends for BMI in girls and boys respectively, and no difference between groups on waist circumference in girls or boys.

ES 1.4.2 One intervention study on substance misuse reported a beneficial effect for a health/social outcome (Bonell et al. 2010).

ES 1.4.3 Overall, there is moderate evidence for behavioural outcomes. Three studies reported beneficial effects or trends on behavioural outcomes: Bonell et al. 2010; Harper et al. 2013; Berg et al. 2009. One study reported beneficial effects or trends of beneficial effects for some behavioural outcomes (had breakfast; number of fruit and vegetables; unhealthy food index; TV usage; computer usage; number of sugar-sweetened beverages; healthy food index; engagement in vigorous physical activity (days); played outdoors; played sports; played video games) and negative trends for others (had milk; engagement in at least 30 minutes of physical activity; organised physical activity). In an intervention on obesity prevention/management and physical activity, Wright et al. (2013) reported, for both girls and boys, positive effects for TV viewing, physical activity, attendance at PE class, and no change for four outcomes: computer use and participation in team sports.

ES 1.4.4 Overall, there was moderate evidence for self-efficacy outcomes. Two studies reported beneficial effects or trends on self-efficacy outcomes for interventions that targeted risky sexual behaviour (Berg et al. 2009) and substance misuse (Bonell, 2010). In an HIV-prevention intervention, Harper et al. (2009) reported beneficial effects for self-efficacy and no difference between groups for sexual assertiveness and sexual decision making.

ES 1.4.5. There was moderate evidence reported in two studies of beneficial effects on behavioural beliefs for interventions that targeted risky sexual behaviour (Bonell et al. 2010) and HIV prevention (Harper et al. 2009). A behavioural outcome was measured in one study that evaluated an intervention on seatbelt, use but data for this outcome was not reported (Wermert et al. 2012).

1. Berg et al. 2009 [+, +]; 2. Bonell et al. 2010 [++, +]; 3. Harper et al. 2009 [-,+]; 4. Hoelscher et al. 2010 [-,+]; 5. Wermert et al. 2012 [-,+]; 6. Wright et al. 2013 [+, +]

Evidence Statement 1.5: Community engagement with women

Evidence has been sourced from five health interventions (4 US, 1 Australian) that targeted women from disadvantaged communities exclusively.1-5

ES 1.5.1 There was weak evidence from one study for the beneficial effect of health interventions on clinical outcomes. Eades et al. (2012) reported a positive trend for the beneficial effect of a smoking cessation intervention on smoking (in Component 1, this was regarded as a clinical measure as it was validated through urine tests).

ES 1.5.2 There was moderate evidence of beneficial effects for health/social outcomes reported in two studies: Kneipp et al. 2011 [nurse case management and skills training on increasing health care utilisation]; Russell et al. 2010 [mammography screening].

ES 1.5.3 There was strong evidence of beneficial effects or trends for behavioural outcomes reported in four studies: Harper et al. 2009 [sexual risk behaviours]; Kieffer et al. 2013 [healthy eating, physical activity and mental health]; Kneipp et al. 2011 [nurse case management and skills training on increasing health care utilisation]; Russell et al. 2010 [mammography screening].

ES 1.5.4 Only one included study assessed self-efficacy. In a study on sexual risk behaviours, beneficial effects were reported for self-efficacy but there were no differences between groups for sexual assertiveness and sexual decision making (Harper et al. 2009).

ES 1.5.5 Only one included study assessed behavioural beliefs and reported beneficial effects for an intervention on sexual risk behaviours (Harper et al. , 2013 [sexual risk behaviours]).

1. Eades et al. 2012 (-,+); 2. Harper et al. 2009 (-,+); 3. Kieffer et al. 2013 (+,++); 4. Kneipp et al. 2011 (-,+); 5. Russell et al. 2010 (-,+)

Evidence Statement 1.6: Community engagement with men

Evidence has been sourced from two health interventions (1 US; 1 Norwegian) that targeted men from disadvantaged communities exclusively.1-2

ES 1.6.1 Only one included study assessed clinical outcomes and reported beneficial effects and trends for an intervention on diabetes prevention and physical activity (Andersen et al. 2013).

ES 1.6.2 No included studies assessed the impact of health interventions on health/social measures.

ES 1.6.3 Overall there was moderate evidence of beneficial effects on behavioural outcomes. Two studies reported beneficial effects or trends for interventions on risky sexual behaviours (Rhodes et al. 2011) and physical activity (Andersen et al. 2013).

ES 1.6.4 No included studies assessed the impact of health interventions on self-efficacy outcomes.

ES 1.6.5 No included studies assessed the impact of health interventions on behavioural beliefs.

1. Andersen et al. 2013 [++, ++]; 2. Rhodes et al. 2011 [+, +]

Evidence Statement 1.7: Community engagement with low-income populations

Evidence has been sourced from seven health interventions (5 US; 1 UK; 1 Danish) which focused on low-income or economically disadvantaged groups from disadvantaged communities.1-7

ES 1.7.1 There was weak evidence from one healthy eating intervention study that reported a beneficial trend on clinical outcomes (Lassen et al. 2011).

ES 1.7.2 There was moderate evidence for the beneficial effects of health interventions on health/social outcomes. In three interventions on increasing health care utilisation (Kneipp et al. 2011), mammography screening (Russell et al. 2010) and food security (Martin et al. 2013), beneficial effects or trends were reported. In one study on healthy eating, physical activity and mental well-being, negative effects on health/social outcomes were reported (Phillips et al. 2014).

ES 1.7.3 Overall, there was strong evidence for the beneficial effect of health interventions on behavioural outcomes. All of the studies included in this section reported beneficial effects or trends: Berg et al. 2009 [substance use prevention]; Dodge et al. 2013 [infant emergency care]; Kneipp et al. 2011 [mental health]; Lassen et al. 2011 [healthy eating]; Martin et al. 2013 [healthy eating/food security]; Phillips et al. 2014 [healthy eating and mental well-being]; and Russell et al. 2010 [mammography screening].

ES 1.7.4 There was moderate evidence for the beneficial effects of health interventions on self-efficacy. Included interventions targeted substance misuse and risky sexual behaviours (Berg et al. 2009) and healthy eating and food security (Martin et al. 2013).

ES 1.7.5 No included studies assessed the impact of health interventions on behavioural beliefs.

1. Berg et al. 2009 [+, +]; 2. Dodge et al. 2013 [+,++]; 3. Kneipp et al. 2011 [-,+]; 4. Lassen et al. 2011 [+, -]; 5. Martin et al. 2013 [-,++]; 6. Phillips et al. 2014 [+, +]; 7. Russell et al. 2010 [-,+])

Evidence Statement 1.8: community engagement and health topic clusters: healthy eating/physical activity

Sixteen studies (12 US; 1 UK; 1 Danish; 1 Swedish; 1 Norwegian) were categorised as interventions that targeted healthy eating/physical activity.1-16 Four studies aimed to prevent diabetes (Andersen et al. 2013; Islam et al. 2013; Parikh et al. 2010; Plescia et al. 2008); four were concerned with obesity prevention or management (Dzewaltowski et al. 2010; Hoelscher et al. 2010; Kong et al. 2013; Wright et al. 2013); eleven studies either aimed to promote or evaluate healthy eating or provided it as an intervention component (Bergstrom et al. 2013; Dzewaltowski et al. 2010; Islam et al. 2013; Kieffer et al. 2013; Kong et al. 2013; Lassen et al. 2011; Martin et al. 2013; Phillips et al. 2014; Plescia et al. 2008; Woods et al. 2013; Zoellner et al. 2013); and eleven studies aimed to promote or evaluate physical activity or utilised it as an intervention component (Andersen et al. 2013; Bergstrom et al. 2013; Cohen et al. 2013; Dzewaltowksi et al. 2010; Hoelscher et al. 2010; Kong et al. 2013; Phillips et al. 2014; Plescia et al. 2008; Woods et al. 2013; Wright et al. 2013; Zoellner et al. 2013). Three of these studies took place among identified low-income groups (Lassen et al. 2011; Martin et al. 2013; Phillips et al. 2014), while six studies had ethnicity as the prime characteristic of inequality (Andersen et al. 2013; Islam et al. 2013; Kieffer et al. 2013; Parikh et al. 2010; Plescia et al. 2008; Woods et al. 2013).

ES 1.8.1 Moderately strong evidence exists from seven studies of significant beneficial effects on some clinical measures: Andersen et al. 2013 [diabetes prevention]; Hoelscher et al. 2010 [obesity prevention/management and physical activity]; Kong et al. 2013 [obesity prevention/management, healthy eating and physical activity]; Parikh et al. 2010 [diabetes prevention]; Woods et al. 2013 [healthy eating and physical activity]; Wright et al. 2013 [obesity prevention/management and physical activity]; Zoellner et al. 2013 [healthy eating and physical activity]. However, with the exception of Hoelscher and colleagues' study, which only reported significant intervention impacts on clinical outcomes, these were reported alongside non-significant positive trends. Kong and colleagues' study (2013) provided a further exception, where significant positive intervention impacts in terms of BMI and waist circumference were reported alongside non-significant positive trends in terms of weight and blood glucose levels, and non-significant negative trends in terms of blood insulin levels. Four further studies reported positive non-significant trends in terms of clinical outcomes, but we noted mixed findings, with beneficial effects for some clinical outcomes but not others (Bergstrom et al. 2013; Dzewaltowski et al. 2010; Islam et al. 2013; Lassen et al. 2011).

ES 1.8.2 There was weak evidence for beneficial effects and trends on health/social outcomes. Of the five studies that collected these measures (Bergstrom et al. 2013 [healthy eating and physical activity]; Islam et al. , 2013 [diabetes prevention and healthy eating]; Martin et al. 2013 [food security and healthy eating]; Phillips et al. 2014 [healthy eating, physical activity and mental well-being]; Zoellner et al. 2013 [healthy eating and physical activity]), only Martin and colleagues reported a significant positive intervention impact on health/social outcomes (food security). One study reported a negative trend (Phillips et al. 2014), another reported a positive trend (Islam et al. , 2013, another reported no change (Bergstrom et al. 2013) while Zoellner and colleagues (2013) reported mixed impacts.

ES 1.8.3 Almost all 16 studies on healthy eating/physical activity included behavioural outcomes and overall there was strong evidence for beneficial effects and trends on behavioural outcomes (Woods et al. 2013 did not examine behavioural outcomes). Cohen and colleagues' study (2013 [physical activity]) was distinctive in reporting only significant beneficial intervention impacts on behaviour (park users and physical activity), while Dzewaltowski et al. (2010 [physical activity, healthy eating]) collected a greater number of measures than the three significant positive intervention impacts that were reported. A further seven studies reported positive impacts and trends on behavioural outcomes: Andersen et al. 2013 [obesity prevention/management and healthy eating and physical activity]; Bergstrom et al. 2013 [healthy eating and physical activity] Islam et al. 2013 [diabetes prevention and healthy eating]; Kieffer et al. 2013 [diabetes prevention]; Lassen et al. 2011 [healthy eating]; Phillips et al. 2014 [healthy eating, physical activity and mental well-being]; Wright et al. 2013 [obesity prevention/management and physical activity]. Four studies reported mixed effects, with some negative trends in behaviours (Hoelscher et al. 2010 [obesity prevention/management and physical activity]; Kong et al. 2013 [obesity prevention/management, healthy eating and physical activity]; Plescia et al. 2008 [diabetes prevention, physical activity and healthy eating]; Zoellner et al. 2013 [healthy eating and physical activity]), with negative trends for measures including physical activity, calories consumed and dietary quality and diversity. In addition, one study found a significant negative result in terms of smoking rates (Plescia et al. 2008). One study found no change in either of the two behavioural outcomes measured (Parikh et al. 2010).

ES 1.8.4 The evidence on intervention impacts on self-efficacy outcomes was mixed. One study, Martin et al. 2013 [food security and healthy eating], reported a significant positive intervention effect; Islam and colleagues' study (2013) suggested positive trends that were not statistically significant; Parikh and colleagues' study (2010) reported no change on self-efficacy outcomes; while Zoellner and colleagues' study (2013) presented a mixed picture including some negative results for selected domains of self-efficacy.

ES 1.8.5 Two studies considered knowledge, attitudes and intentions in their outcomes, giving a mixed picture. In one study, there was evidence of statistically significant increases in diabetes knowledge (Islam et al. 2013, [diabetes prevention]) and some positive trends in other outcomes in this domain. The evidence presented in Parikh and colleagues' study (2010) presented an inconsistent pattern, with some positive and negative trends, as well as measures for which there was no measureable change.

1. Andersen et al. 2013 (++,++); 2. Bergstrom et al. 2013 (++,++); 3. Cohen et al. 2013 (-,+); 4. Dzewaltowski et al. 2010 (+,+); 5. Hoelscher et al. 2010 (-,+); 6. Islam et al. 2013 (+,+); 7. Kieffer et al. 2013 (+,++); 8. Kong et al. 2013 (+,+); 9. Lassen et al. 2011 (+,-); 10. Martin et al. 2011 (-,++); 11. Parikh et al. 2010 (+,+); 12. Phillips et al. 2014 (+,+); 13. Plescia et al. 2008 (-,+); 14. Woods et al. 2013 (-,+); 15. Wright et al. 2013 (+,+); 16. Zoellner et al. 2013 (-,-)

Evidence Statement 1.9: Community engagement and health topic clusters: mental health

Two of the studies (1 UK, 1 US) focused on mental health targeted economically deprived populations, while the third (US) was directed toward people with mental illness.1-3 Kneipp et al. (2011) aimed to evaluate the combination of public health nurse case management and Medicaid insurance knowledge and skills training to improve knowledge of and levels of access to health care and Medicaid benefits (including access to mental health care). The Well-London trial described by Phillips et al. (2014) aimed to use community engagement strategies to promote healthy eating, physical activity and mental well-being in deprived neighbourhoods. The study by Segal et al. (2011) aimed to evaluate the effectiveness of consumer-operated service programmes for people with serious mental illness, provided in conjunction with community mental health agency services.

ES 1.9.1 None of these studies with a focus on mental health assessed the impact of health interventions on clinical measures (measures of mental health are not considered clinical in Component 1).

ES 1.9.2 There was mixed evidence in terms of intervention impacts on health/social measures. Kneipp and colleagues (2011) found significant positive intervention impacts on depressive symptoms, and non-significant improvements in general health and functional health. Phillips and colleagues (2014) found a small downward trend in terms of participant mental health using two measures. A third study reported moderately (non-significant) beneficial effects for some health/social outcomes (Brief Psychiatric Rating Scale and hopelessness) but negative effects for others (social integration) (Segal et al. 2011).

ES 1.9.3 Two studies examined behavioural outcomes, reporting moderately beneficial effects. Kneipp and colleagues (2011) found significant positive intervention impacts on the number of new mental health visits made, and a moderately beneficial (non-significant) impact on the number of routine visits made. Phillips and colleagues (2014) recorded a significant intervention effect in an unhealthy eating index, and a non-significant positive trend in terms of physical activity and a further measure of healthy eating.

ES 1.9.4 Only one study examined self-efficacy, and this reported significant negative effects for two measures (Segal et al. 2011).

ES 1.9.5 No studies assessed the impact of health interventions on behavioural beliefs.
1. Kneipp et al. 2011 (-,+); 2. Phillips et al. 2014 (+,+); 3. Segal et al. 2011 (+,+)

Evidence Statement 1.10: Community engagement for health topic clusters: risk behaviours

Five studies (4 US; 1 UK) focused on influencing risk behaviours.1-5 Two studies focused exclusively on sexual risk behaviours (Harper et al. 2009; Rhodes et al. 2011), one study examined substance use (Bonell et al. 2010), and one study addressed both sexual risk behaviour and substance use (Berg et al. 2009). A fifth study focused on reducing traffic accidents by improving seat belt use (Wermert et al. 2012). Four studies focused on minority ethnic groups; the fifth was targeted at youth at risk of traffic accidents (Wermert et al. 2012). Two studies also specified a focus on low-income populations (Berg et al. 2009; Bonell et al. 2010).

ES 1.10.1 None of the studies focusing on risk behaviours assessed the impact of health interventions on clinical measures of health.

ES 1.10.2 Only one study examined health and social outcomes and reported beneficial effects (Bonell et al. , 2010). This study aimed at improving school ethos as a means for reducing substance use, and found a significant improvement in feeling safe at school among children in intervention schools.

ES 1.10.3 There was moderate evidence of positive impact of health interventions on health behaviours. One study examined behavioural outcomes and reported marginally beneficial effects (Bonell et al. , 2010). Bonell and colleagues reported borderline statistically significant beneficial outcomes in behaviour around behavioural conduct in schools (teasing others; hurting others; being teased; been in a fight) in an intervention aimed at improving school ethos as a means of reducing substance use. One study measured behavioural outcomes but did not report the data in full (Wermert et al. , 2012). Two studies found strong evidence for beneficial effects on behavioural outcomes: one found significant impacts on the frequency of carrying condoms and number of partners (Harper et al. 2009) while a second found significant effects on HIV testing and condom usage (Rhodes et al. , 2011); Harper and colleagues also found a positive (non-significant) trend in terms of self-reported condom use. Berg and colleagues (2009) reported significant intervention impacts on marijuana use and non-significant trends in terms of reduced alcohol consumption and reduced number of sexual partners.

ES 1.10.4 There was strong evidence from two studies that reported beneficial effects on self-efficacy outcomes (Berg et al. 2009; Harper et al. 2009) and positive (non-significant) trends in a third (Bonell et al. 2010). In Berg and colleagues' study, young people reported significant intervention impacts in terms of 'community self-efficacy', while in Harper and colleagues' study they found significant intervention impacts on young women's self-efficacy, but found little change in terms of their decision-making capabilities or their assertiveness in terms of sex. Bonell and colleagues (2010) found positive trends in schoolchildren's worries around abilities to do work, sense of achievement and perceptions of getting on well with their teacher.

ES 1.10.5 There was strong evidence from one study that reported beneficial effects on behavioural beliefs (Harper et al. 2009) and moderate evidence from a second (Bonell et al.

2010). In Harper's study positive intervention impacts were found across eight measures: perceived peer norms, sexual communication, condom attitudes, attitudes regarding whether leading on justifies force, attitudes regarding token refusal of sex, HIV/AIDS knowledge, STI knowledge and plans to use condoms (Harper et al. 2013). In the study by Bonell et al., there was moderate (non-significant) evidence of intervention impacts on six measures, not all of which were directly related to health: attitudes towards school, attitudes towards truanting, higher education expectations, expectation of whether they would try drugs, expectation of whether they would try smoking, expectation of whether they would get drunk before age 16. Wermert et al. (2012) also measured self-efficacy, although the results were not reported in full in the study.

1. Berg et al. 2009 (+,+); 2. Bonell et al. 2010 (++,+); 3. Harper et al. 2009 (-,+); 4. Rhodes et al. 2011 (+,+); 5. Wermert et al. 2012 (-,+)

Evidence Statement 1.11: Community engagement for health topic clusters: cancer prevention.

All three of the studies (2 US; 1 Australian) focused on cancer prevention were directed toward minority ethnic groups.1-3 The study by Chen et al. (2013) aimed to evaluate a large-scale intervention to promote hepatitis B virus (HBV) testing among Hmong Americans (hepatitis-B infection is a risk factor for liver cancer). Eades et al. (2012) aimed to evaluate an intensive smoking cessation programme on smoking rates in Australian Aboriginal and Torres Strait Islander women. Russell et al. (2010) aimed to determine the effectiveness of a lay health advisor intervention on improving mammography screening rates among low-income African-American women. One study was deemed to have moderate levels of community engagement (Chen et al. , 2013) and two were deemed to have low levels of community engagement (Russell et al. , 2010; Eades et al. 2012). Given the low number of studies and their variable risk of bias ratings, caution should be exercised in the interpretation and application of the findings around cancer prevention studies.

ES 1.11.1 One of the three studies assessed the impact of health interventions on clinical measures: this study found a marginally positive impact on clinically verified smoking prevalence (Eades et al. 2012).

ES1.11.2 One study reported beneficial effects on health/social measures (Russell et al. 2010). The authors found that study participants were significantly more likely than control group participants to be willing or plan to have a mammography screening.

ES 1.11.3 There was strong evidence of beneficial effects on behavioural outcomes from two of the studies (Chen et al. 2013; Russell et al. 2010).Russell and colleagues (2010) found positive statistically significant impacts on mammography screening and Chen and colleagues (2013) found a positive statistically significant impact on HBV testing rates.

ES 1.11.4 None of the cancer prevention studies assessed the impact of these health interventions on self-efficacy measures.

ES 1.11.5 One study assessed the impact of health intervention on behavioural beliefs and found moderately beneficial effects (Chen et al. , 2013). The authors found that their intervention significantly raised levels of knowledge (about HBV), but not across all domains.

1. Chen et al. 2013 (+,+); 2. Eades et al. 2012 (-,+); 3. Russell et al. 2010 (-,+)

Evidence Statement 1.12: Community engagement for health topic: child health

One American study, Dodge et al. 2013 (+,++), evaluated a brief parenting and health care resource access intervention on preventing emergency medical visits at age 12 months, particularly aimed at low-income families in the US. In this study, two community advisory boards were formed that undertook ongoing monitoring of rates of family needs and experiences with services to improve community service capacity. Service agencies also signed a memorandum of agreement requiring them to follow a preventive system of care. This necessitated collaboration across agencies, family-centred service delivery and joined-up care. The authors reported a beneficial effect for emergency medical care in intervention group infants of low income families at age 12 months. They also reported no change in emergency department use between 6 and 12 months, while measures of emergency medical care, overnight hospital stays and emergency department visits from birth to six months for low-income families were not reported. This study was assessed as having low levels of community engagement and to be at moderate risk of bias. The quality of the study, and its lone status within this health topic indicate that some caution should be used in the interpretation of its findings.

ES 1.12.1 The one included study on child health did not assess the impact of health interventions on clinical measures.

ES 1.12.2 The one included study on child health did not assess the impact of health interventions on health/social measures.

ES 1.12.3 The one included study on child health assessed the impact of health interventions on behavioural outcomes, finding a significant positive impact of the intervention on infant emergency care.

ES 1.12.4 The one included study on child health did not assess the impact of health interventions on self-efficacy.

ES 1.12.5 The one included study on child health did not assess the impact of health interventions on behavioural beliefs.

Evidence Statement 1.13: Community engagement for health topic: organ donations

One US study, Andrews et al. (2012) (-,+), aimed to test the effectiveness of using lay health advisors to increase organ donation among African-American church members. Researchers involved the community by focusing on churches with which they had existing partnerships, engaging relevant community organisations, gaining commitment agreement with churches after consultation with church committees and pastors, and identifying a church co-ordinator who recruited peer leaders who were then trained to deliver intervention. Reported outcomes indicated a positive trend for effectiveness, including verified enrolment in an organ donation programme and self-reported organ donation status. Intentions and attitudes, although measured, were not reported. This study was deemed to have moderate

levels of community engagement. The study was assessed to be at high risk of bias; this and its status as the sole included study on the topic suggest that caution should be exercised in the interpretation and application of its findings.

ES 1.13.1 The one included study on organ donation did not assess the impact of health interventions on clinical measures.

ES 1.13.2 The one included study on organ donation did not assess the impact of health interventions on health/social measures.

ES 1.13.3 The one included study on organ donation assessed the impact of health interventions on behavioural outcomes, and found beneficial effects on people's self-reported donation status, although these were not statistically significant.

ES 1.13.4. The one included study on organ donation did not assess the impact of health interventions on self-efficacy.

ES 1.13.5 The one included study on organ donation assessed a number of measures reflecting knowledge, attitudes and intentions, finding marginally positive impacts of health interventions on behavioural beliefs that were not statistically significant

Review 2: 'Community engagement for health via coalitions, collaborations and partnerships – a systematic review and meta-analysis (component 2)'

Several evidence statements can be derived from the analyses conducted, where data allowed. These have been structured to address the review's original research questions:

2.1. How effective are community engagement approaches at improving health and wellbeing and reducing health inequalities?

The overall pooled estimate of effect size for coalition-based community engagement health interventions provides moderate evidence of positive effects across all three outcome domains, with the highest effect size observed for self-efficacy (based on five methodologically sound studies (+)6-10 and five studies not deemed to be methodologically sound (-)1-5), followed by behaviours (based on twenty-three methodologically sound studies6-10,32-49) and twenty-six studies not deemed to be methodologically sound1-5,11-31) and then clinical outcomes (based on ten methodologically unsound studies 2,12,18-20,22,26,27,34,50 and nine studies deemed to be sound 8,33,39,42,47,49,51-3).[1] While the effects recorded in the majority of studies were positive, and pooled estimates were statistically significantly above zero, there was, however, substantial heterogeneity in all effect size estimates, and many individual studies did not attain effect sizes that were statistically significantly above zero, leading us to conclude that there was only moderate evidence of effectiveness for this form of community engagement.

1. Harper et al. 2009 (-); 2. Resnicow et al. 1992 (-); 3. Russell et al. 2010 (-); 4. Secker-Walker et al. 2000 (-); 5. Zoellner et al. 2013 (-); 6. Andrews et al. 2007 (+); 7. Campbell et al. 1999 (+); 8. Islam et al. 2013 (+); 9. Perry et al. 1996 (+); 10. Resnicow et al. 2004 (+); 11. Andrews et al. 2012 (-); 12. Brownson et al. 1996 (-); 13. Brownson et al. 2005 (-); 14. Daniel et al. 1999 (-); 15. Eades et al. 2012 (-); 16. Foerster et al. 1998 (-); 17. Hancock et al. 2001 (-); 18. Hoelscher et al. 2010 (-); 19. Kneipp et al. 2011 (-); 20. Kumpusalo et al. 1996 (-); 21. Lewis et al. 1993 (-); 22. Macaulay et al. 1997 (-); 23. Martin et al. 2013 (-); 24. McAlister et al. 1992 (-); 25. Mendoza et al. 2009 (-); 26. O'Loughlin et al. 1999 (-); 27. Phillips et al. 2014 (-); 28. Schensul et al. 2009 (-); 29. Schwarz et al. 1993 (-); 30. Wright et al. 1997 (-); 31. Zhou et al. 2003 (-); 32. Andersen et al. 2013 (+); 33. Becker et al. 2005 (+); 34. Chen et al. 2013 (+); 35. Davis et al. 1995 (+); 36. Dedobbeleer et al. 2001 (+); 37. Dodge et al. 2013 (+); 38. Dzewaltowski et al. -2010 (+); 39. Kong et al. 2013 (+); 40. Lindenberg et al. 2002 (+); 41. LoSciuto et al. 1999 (+); 42. Nafziger et al. 2001 (+); 43. Rhodes et al. 2011 (+); 44. Schinke et al. 2000 (+); 45. Schorling et al. 1997 (+); 46. Shelley et al. 2008 (+); 47. Simmons et al. 1998 (+); 48. Winkleby et al. 2004 (+); 49. Yanek et al. 2001 (+); 50. Davidson et al. 1994 (-); 51. Kieffer et al. 2013 (+); 52. Lindqvist et al. 1999 (+); 53. Robinson et al. 2003 (+)

To examine specific aspects of this research question, we addressed some sub-questions discussed below.

[1] All evidence described here based on post-test outcomes that weren't measured in units of 'change'.

2.1.1 Do health outcome effects differ for 'distal' (e.g. self-efficacy), 'intermediate' (e.g. health behaviour), or 'proximal' (clinical/physiological measure) outcomes?

Only three studies (two of unsound and one of sound methodological quality1-3) collected outcomes across all three health domains. We observed weak evidence of a correlation between effect-sizes across domains among those (few) studies that included measures across these domains.

1. Islam et al. 2013 (+); 2. Resnicow et al. 1992 (-); 3. Zoellner et al. 2013 (-)

2.1.2 Do direct comparisons of community engagement (i.e. studies that test a community engagement intervention versus the same intervention without community engagement) differ in health outcome effects from indirect comparisons of community engagement (e.g. those that test community engagement versus usual care)?

Because of the low number of studies with direct comparisons in both sets of studies combined (n=3), and on our analysis strategy, which examined effect sizes separately across different outcome domains, we were unable to synthesise the results to address this research question. Thus we found no evidence of an effect of community engagement as a sole strategy on outcomes.

2.1.3 What is the relationship between the extent of community engagement (high, moderate or low) and health outcome effects?

We found no evidence supporting the hypothesis that studies with higher levels of community engagement also tended to have higher effect sizes for clinical or self-efficacy outcomes, and only weak evidence for an effect on behavioural outcomes (based on twenty-three methodologically sound studies [27 -49] and twenty-six studies not deemed to be methodologically sound [1 – 26]).

However, we uncovered moderate evidence based on 20 studies deemed methodologically sound5,20,27-34,36,38,39,41-49 and 14 studies considered to be methodologically unsound1,4,5,6-8,10,14,15,19,20,22,26,37 of a link between extent of engagement and outcome effects for a subset of behavioural outcomes, those studies with a longitudinal design. Here extent of engagement was found to explain a substantial part of between-study variance for this group of studies. For clinical outcomes or self-efficacy outcomes, extent of engagement did not help to explain differences in effect size between studies.

1. Andrews et al. 2012 (-); 2. Brownson et al. 1996 (-); 3. Brownson et al. 2005 (-); 4. Daniel et al. 1999 (-); 5. Eades et al. 2012 (-); 6. Foerster et al. 1998 (-); 7. Hancock et al. 2001 (-); 8.

Harper et al. 2009 (-); 9. Hoelscher et al. 2010 (-); 10. Kneipp et al. 2011 (-); 11. Kumpusalo et al. 1996 (-); 12. Lewis et al. 1993 (-); 13. Macaulay et al. 1997 (-); 14. Martin et al. 2013 (-); 15. McAlister et al. 1992 (-); 16. Mendoza et al. 2009 (-); 17. O'Loughlin et al. 1999 (-); 18. Phillips et al. 2014 (-); 19. Resnicow et al. 1992 (-); 20. Russell et al. 2010 (-); 21. Schensul et al. 2009 (-); 22. Schwarz et al. 1993 (-); 23. Secker-Walker et al. 2000 (-); 24. Wright et al. 1997 (-); 25. Zhou et al. 2003 (-); 26. Zoellner et al. 2013 (-); 27. Andersen et al. 2013 (+); 28. Andrews et al. 2007 (+); 29. Becker et al. 2005 (+); 30. Campbell et al. 1999 (+); 31. Chen et al. 2013 (+); 32. Davis et al. 1995 (+); 33. Dedobbeleer et al. 2001 (+); 34. Dodge et al. 2013 (+); 35. Dzewaltowski et al. -2010 (+); 36. Islam et al. 2013 (+); 37. Kong et al. 2013 (+); 38. Lindenberg et al. 2002 (+); 39. LoSciuto et al. 1999 (+); 40. Nafziger et al. 2001 (+); 41. Perry et al. 1996 (+); 42. Resnicow et al. 2004 (+); 43. Rhodes et al. 2011 (+); 44. Schinke et al. 2000 (+); 45. Schorling et al. 1997 (+); 46. Shelley et al. 2008 (+); 47. Simmons et al. 1998 (+); 48. Winkleby et al. 2004 (+); 49. Yanek et al. 2001 (+)

2.2. Across disadvantaged groups, how effective are community engagement approaches at encouraging people to participate in activities to improve their health and wellbeing and realise their capabilities?

To address this research question, several sub-questions were posed:

2.2.1 Do health outcome effects differ for different age groups?

Overall we observed no evidence to suggest that studies that focused on younger or older groups achieved larger or smaller effect sizes across most domains. In the case of studies that collected behavioural outcomes through repeated cross-sectional designs, we did find weak evidence that studies focused on children achieved higher effect sizes than studies that did not based on two studies deemed methodologically sound (+)14,15 and 13 studies not deemed to be methodologically sound (-)1 - 13. However, we were unable to discount other factors, including lower population turnover, in studies with a focus on children.

1. Brownson et al. 2005 (-); 2. Lewis et al. 1993 (-); 3. Hoelscher et al. 2010 (-); 4. Zhou et al. 2003 (-); 5. Mendoza et al. 2009 (-); 6. Brownson et al. 1996 (-); 7. Schensul et al. 2009 (-); 8. O'Loughlin et al. 1999 (-); 9. Secker-Walker et al. 2000 (-); 10. Kumpusalo et al. 1996 (-); 11. Wright et al. 1997 (-); 12. Phillips et al. 2014 (-); 13. Macaulay et al. 1997 (-); 14. Dzewaltowski et al. -2010 (+); 15. Nafziger et al. 2001 (+)

2.2.2 Do health outcome effects differ for studies targeting men only versus those targeting women only?

Overall we observed no evidence to suggest that studies that focus on either gender had either lower or higher effect sizes for behavioural or clinical. Where there was weak evidence suggestive of a study-level gender difference in effect size was in terms of self-efficacy outcomes, where studies which focussed on females had higher effect sizes for this domain than those that did not, although this was based on a very small sample of studies based on five studies deemed methodologically sound (+)4,6,7,9,10 and five studies deemed to be methodologically unsound (-)1,2,3,5,8. However, we were not able to rule out the influence of the unit of measurement (binary vs continuous) or the methodological quality of the study as explanatory factors. The relationship between gender and self-efficacy may be an area for future investigation, although the current weak evidence means that this result should not be used to influence guidelines around the issue.

1. Zoellner et al. 2013 (-); 2. Secker-Walker et al. 2000 (-); 3. Harper et al. 2009 (-); 4. Islam et al. 2013 (+); 5. Resnicow et al. 1992 (-); 6. Perry et al. 1996 (+); 7. Resnicow et al. 2004 (+); 8. Russell et al. 2010 (-); 9. Andrews et al. 2007 (+); 10. Campbell et al. 1999 (+)

2.2.3 Do health outcome effects differ for studies specifically developed for low-income groups versus those that are not?

The framework synthesis findings in Component 1 suggested that a high extent of community engagement was seen in low-income groups. However, subsequent meta-analyses provided no evidence of differences in the number of processes recorded between low-income groups versus those of any other type of disadvantage, although this may be due to methodological limitations of the studies (some of which were not included in the meta-analyses). In total, in the meta-analyses, nine studies focused on low-income groups, of which four were of sound methodological quality6 - 9 and five were judged to be unsound 1-5. There were some indications that studies with a focus on low income groups that collected clinical outcomes1,4,7,9 had lower effect sizes compared to those that did not for clinical outcomes, although we were not able to rule out the influence of study methodological quality in driving this result.

1. Hoelscher et al. 2010 (-); 2. Martin et al. 2013 (-); 3. O'Loughlin et al. 1999 (-); 4. Phillips et al. 2014 (-); 5. Wright et al. 2013 (-); 6. Dodge et al. 2013 (+); 7. Dzewaltowski et al. 2010 (+); 8. Kloek et al. 2006 (+); 9. Kong et al. 2013 (+)

2.3. What processes and methods facilitate the realisation of community and individual capabilities and assets amongst disadvantaged groups?

To examine this question in further detail, we asked the following sub-question:

2.3.1 Which potentially modifiable processes of community engagement have been evaluated?

While evidence evaluating the processes of *intervention implementation* was located, no studies provided evaluations of the processes of *community engagement*. We identified descriptions of several processes of community engagement, providing weak evidence of processes, including bidirectional communication1-5,8,9,11-14,17-23, collective decision making1-5,9,10,12-14,16-23, training support for intervention provision1,2,4-7,9-17,20-23, allowing adequate time for relationship development3,9,12-14, negotiation/reflection12, conflict resolution skills12,21, arranging meetings to suit community members' needs4,17, use of external facilitators3,21, administrative support15 and interagency working15.

1. Kneipp et al. 2011 (-); 2. Martin et al. 2013 (-); 3. Zoellner et al. 2013 (-); 4. Kong et al. 2013 (+); 5. Islam et al. 2013 (+); 6. Russell et al. 2010 (-); 7. Eades et al. 2012 (-); 8. Andersen et al. 2013 (+); 9. Rhodes et al. 2011 (+); 10. Chen et al. 2013 (+); 11. Andrews et al. 2012 (-); 12. Berg et al. 2009 (+); 13. Bonell et al. 2010 (+); 14. Cohen et al. 2013 (-); 15. Dzewaltowski et al. 2010 (+); 16. Hoelscher et al. 2010 (-); 17. Kieffer et al. 2013 (+); 18. Lassen et al. 2011 (-); 19. Parikh et al. 2010 (+); 20. Phillips et al. 2014 (-); 21. Plescia et al. 2008 (-); 22. Segal et al. 2009 (+); 23. Woods et al. 2013 (-)

2.3.2 Are potentially modifiable processes of community engagement associated with health outcome effects?

When we created a cumulative score based on the number of community engagement processes across studies included in both the original and the current reviews, we found moderate evidence from 20 studies deemed methodologically sound 15-34 and 14 studies considered to be methodologically unsound 1-14 that each additional engagement process was associated with larger effect size; but only for a model that included behavioural outcomes measured longitudinally. However, we were unable to identify a single modifiable process that significantly helped to explain differences in effect size. Evidence was thus considered weak because, although several studies described these processes, none were evaluated; and while no single processes of engagement appeared to be related to effect size, longitudinal studies with more processes of engagement described were associated with larger effects. Future evaluation of these processes are needed to provide robust evidence; however, this analysis acts as a starting point for making practical suggestions about how communities and providers can work together to undertake community engagement.

1. Kneipp et al. 2011 (-); 2. Foerster et al. 1998 (-); 3. Harper et al. 2009 (-); 4. Martin et al. 2013 (-); 5. Resnicow et al. 1992 (-); 6. McAlister et al. 1992 (-); 7. Hancock et al. 2001 (-); 8. Zoellner et al. 2013 (-); 9. Schwarz et al. 1993 (-); 10. Andrews et al. 2012 (-); 11. Daniel et al. 1999 (-); 12. Kong et al. 2013 (-); 13. Islam et al. 2013 (+); 14. Shelley et al. 2008 (+); 15.

Schinke et al. 2000 (+); 16. Dodge et al. 2013 (+); 17. Russell et al. 2010 (-); 18. Eades et al. 2012 (-); 19. Winkleby et al. 2004 (+); 20. Resnicow et al. 2004 (+); 21. Perry et al. 1996 (+); 22. LoSciuto et al. 1999 (+); 23. Yanek et al. 2001 (+); 24. Lindenberg et al. 2002 (+); 25. Becker et al. 2005 (+); 26. Dedobbeleer et al. 2001 (+); 27. Andersen et al. 2013 (+); 28. Schorling et al. 1997 (+); 29. Campbell et al. 1999 (+); 30. Simmons et al. 1998 (+); 31. Davis et al. 1995 (+); 32. Rhodes et al. 2011 (+); 33. Andrews et al. 2007 (+); 34. Chen et al. 2013 (+)

2.4. Are there unintended consequences from adopting community engagement approaches?

No evidence was found which suggested unintended consequences from adopting community engagement approaches. However, weak evidence from 50 (24 methodologically unsound and 26 methodologically sound) studies examined in the qualitative comparative analysis suggested that a low extent of community engagement was aligned with lower effect sizes1-50.

1. Andersen et al. 2013 (+); 2. Andrews et al. 2007 (+); 3. Andrews et al. 2012 (-); 4. Becker et al. 2005 (+); 5. Brownson et al. 1996 (-); 6. Brownson et al. 2005 (-); 7. Campbell et al. 1999 (+); 8. Chen et al. 2013 (+); 9. Daniel et al. 1999 (-); 10. Davis et al. 1995 (+); 11. Dedobbeleer et al. 2001 (+); 12. Dodge et al. 2013 (+); 13. Dzewaltowski et al. 2010 (+); 14. Eades et al. 2012 (-); 15. Foerster et al. 1998 (-); 16. Hancock et al. 2001 (-); 17. Harper et al. 2009 (-); 18. Hoelscher et al. 2010)(-); 19. Islam 2013 et al. (+); 20. Kneipp et al. 2011 (-); 21. Kong et al. 2013 (+); 22. Kumpusalo et al. 1996 (-); 23. Lewis et al. 1993 (-); 24. Lindenberg 2002 (+); 25. LoSciuto et al. 1999 (+); 26. Macaulay et al. 1997 (-); 27. Martin et al. 2013 (-); 28. McAlister et al. 1992 (-); 29. Mendoza et al. 2009 (-); 30. Nafziger et al. 2001 (+); 31. O'Loughlin et al. 1999 (-); 32. Perry et al. 1996 (+); 33. Phillips et al. 2014 (-); 34. Resnicow et al. 1992 (-); 35. Resnicow et al. 2004 (+); 36. Rhodes et al. 2011 (+); 37. Robinson et al. 2003 (+); 38. Russell et al. 2010 (-); 39. Schensul et al. 2009 (-); 40. Schinke et al. 2000 (+); 41. Schorling et al. 1997 (+); 42. Schwarz et al. 1993 (-); 43. Secker-Walker et al. 2000 (-); 44. Shelley et al. 2008 (+); 45. Simmons et al. 1998 (+); 46. Winkleby et al. 2004 (+); 47. Wright et al. 1997 (+); 48. Yanek et al. 2001 (+); 49. Zhou et al. 2003 (-); 50. Zoellner et al. 2013 (-)

2.5. What processes identified in the literature are more aligned with effective interventions, and which (if any) are more aligned with non-effective interventions?

Finally, findings from our QCA supported those of the meta-analyses by providing tentative evidence that more community engagement was aligned with higher effect sizes; conversely, less community engagement across design, delivery and evaluation was aligned with lower effect sizes1-50.

1. Andersen et al. 2013 (+); 2. Andrews et al. 2007 (+); 3. Andrews et al. 2012 (-); 4. Becker et al. 2005 (+); 5. Brownson et al. 1996 (-); 6. Brownson et al. 2005 (-); 7. Campbell et al. 1999 (+); 8. Chen et al. 2013 (+); 9. Daniel et al. 1999 (-); 10. Davis et al. 1995 (+); 11. Dedobbeleer et al. 2001 (+); 12. Dodge et al. 2013 (+); 13. Dzewaltowski et al. 2010 (+); 14. Eades et al. 2012 (-); 15. Foerster et al. 1998 (-); 16. Hancock et al. 2001 (-); 17. Harper et al. 2009 (-); 18. Hoelscher et al. 2010)(-); 19. Islam 2013 et al. (+); 20. Kneipp et al. 2011 (-); 21. Kong et al. 2013 (+); 22. Kumpusalo et al. 1996 (-); 23. Lewis et al. 1993 (-); 24. Lindenberg 2002 (+); 25. LoSciuto et al. 1999 (+); 26. Macaulay et al. 1997 (-); 27. Martin et al. 2013 (-); 28. McAlister et al. 1992 (-); 29. Mendoza et al. 2009 (-); 30. Nafziger et al. 2001 (+); 31. O'Loughlin et al. 1999 (-); 32. Perry et al. 1996 (+); 33. Phillips et al. 2014 (-); 34. Resnicow et al. 1992 (-); 35. Resnicow et al. 2004 (+); 36. Rhodes et al. 2011 (+); 37. Robinson et al. 2003 (+); 38. Russell et al. 2010 (-); 39. Schensul et al. 2009 (-); 40. Schinke et al. 2000 (+); 41. Schorling et al. 1997 (+); 42. Schwarz et al. 1993 (-); 43. Secker-Walker et al. 2000 (-); 44. Shelley et al. 2008 (+); 45. Simmons et al. 1998 (+); 46. Winkleby et al. 2004 (+); 47. Wright et al. 1997 (+); 48. Yanek et al. 2001 (+); 49. Zhou et al. 2003 (-); 50. Zoellner et al. 2013 (-)

Across all of the evidence statements, the evidence can be considered to be partially applicable, given the large proportion of non-UK focused studies.

Note: We did not provide details of studies and their risk of bias ratings for evidence statements from the meta-analyses where high levels of heterogeneity prevented us from providing pooled estimates of effect size; this included the results from meta-regression. Details of studies and their risk of bias ratings for evidence statements based on meta-regression were not provided for reasons of consistency. In many cases the results were based on either (i) covariates that had been modelled continuously (representing a step change) where the result was based on all studies, rather than a difference between two groups; or (ii) multivariate analyses where the result represented the impact of one study level characteristic controlling for another.

Review 3: 'Community engagement for health via coalitions, collaborations and partnerships (on-line social media and social networks) – a systematic review and meta-analysis (component 3)'

3.RQ1. What is the extent of community engagement across design, delivery and evaluation in online social media and online social networking interventions?

There is evidence from all eleven studies of community engagement in the delivery of a variety of health interventions1-11; however only two studies additionally involved community members in design consultation or collaboration 6,10; and no studies described community member involvement in intervention evaluation. This is 'weak' evidence due to the unclear theoretical mechanisms underpinning the use of community members, the lack of evaluations of community engagement, and based on the high to moderate risk of bias across studies.

1. Brindal et al 2012 (-); 2. Bull et al. 2012 (-); 3. Carr et al. 2013 (++); 4. Cavallo et al. 2012 (+); 5. Cobb and Poirier 2014 (+); 6. Hanberger et al. 2013 (+); 7. Hansen et al. 2012 (-); 8. Hwang et al. 2013 (-); 9. Lau et al. 2012 (++); 10. Mayer and Harrison 2012 (-); 11. Turner-McGrievy and Tate 2011) (+)

3.RQ2. What health issues and populations have been studied using online social media / social networking?

There is evidence of health issues focused on healthy eating/physical activity1,3,4,7,11, cancer detection and screening8, diabetes6, general wellbeing and lifestyle5, sexual health2, flu immunisation9, food safety10. This is inconsistent due to the low number of studies for each health topic and population. There is evidence of studies focused on populations under 25 years of age2,4,6,10 or on those over 40 years of age1,7,8,11, but gaps in evaluated interventions in those under 16, 30 to 40 years of age and over 60 years of age. There is inconsistent evidence of studies targeted to women only4,8 and no evidence of studies targeting men specifically. There is inconsistent evidence of social media/social networking interventions directed to minority ethnic groups2,3.

1. Brindal et al 2012 (-); 2. Bull et al. 2012 (-); 3. Carr et al. 2013 (++); 4. Cavallo et al. 2012 (+); 5. Cobb and Poirier 2014 (+); 6. Hanberger et al. 2013 (+); 7. Hansen et al. 2012 (-); 8. Hwang et al. 2013 (-); 9. Lau et al. 2012 (++); 10. Mayer and Harrison 2012 (-); 11. Turner-McGrievy and Tate 2011) (+)

3.RQ3. How effective are online social networks in improving health and wellbeing and reducing health inequalities?

There is no evidence of effectiveness from ten RCTs and one quasi-experimental study1-11 that online social networks or social media or social networks are effective in improving health and wellbeing or reducing health inequalities. Studies showed very small mixed effects; further the methodological quality of all studies indicated a moderate or high risk of bias.

1. Brindal et al 2012 (-); 2. Bull et al. 2012 (-); 3. Carr et al. 2013 (++); 4. Cavallo et al. 2012 (+); 5. Cobb and Poirier 2014 (+); 6. Hanberger et al. 2013 (+); 7. Hansen et al. 2012 (-); 8. Hwang et al. 2013 (-); 9. Lau et al. 2012 (++); 10. Mayer and Harrison 2012 (-); 11. Turner-McGrievy and Tate 2011) (+)

3.RQ4. Do particular programme features (e.g. health topic, extent of engagement, population type) account for heterogeneity in effect size estimates across studies?

Based on the eleven included studies1-11, there is no evidence that any programme features account for heterogeneity in the effect size estimates across studies. This is in part because so little variation in effect sizes occurred; and also because too few studies provided data amenable to regression analyses.

1. Brindal et al 2012 (-); 2. Bull et al. 2012 (-); 3. Carr et al. 2013 (++); 4. Cavallo et al. 2012 (+); 5. Cobb and Poirier 2014 (+); 6. Hanberger et al. 2013 (+); 7. Hansen et al. 2012 (-); 8. Hwang et al. 2013 (-); 9. Lau et al. 2012 (++); 10. Mayer and Harrison 2012 (-); 11. Turner-McGrievy and Tate 2011) (+)

3.RQ5. Which processes of community engagement are more aligned with effective interventions?

There is weak evidence from nine studies1-9 that employing either peers or professionals to facilitate online discussion forums is seen more often with effective outcomes. This evidence is weak because of the high to moderate risk of bias across studies, the limited number of studies showing effective outcomes in comparison to those showing no effect, and the very small effect sizes between studies.

1. Brindal et al 2012 (-); 2. Bull et al. 2012 (-); 3. Carr et al. 2013 (++); 4. Cavallo et al. 2012 (+); 5. Hanberger et al. 2013 (+); 6. Hansen et al. 2012 (-); 7. Hwang et al. 2013 (-); 8. Lau et al. 2012 (++); 9. Turner-McGrievy and Tate 2011) (+)

Review 4: 'Community engagement – approaches to improve health: map of the literature on current and emerging community engagement policy and practice in the UK'

Evidence Statement 1: Conceptual

A number of overlapping terms are used to cover concepts and approaches that relate to the active participation of people in decisions about their health and lives (based on 30 conceptual/ theoretical papers *). This includes community engagement (4 papers: Fountain et al. 2007; Glasgow Centre for Population Health 2007; Sheridan and Tobi 2010; South and Phillips 2014), community participation (2 papers: Mahoney et al. 2007; Draper et al. 2010), community or public involvement (3 papers: Burton et al. 2006; Chadderton et al. 2008; Department of Health 2006) and empowerment (3 papers: Department for Communities and Local Government 2007; Laverack 2006; Spencer 2014). Empowerment is a complex concept that has different dimensions both relating to process and outcomes (Laverack 2006; Spencer 2014). The review of conceptual papers post 2006, suggests that community engagement also relates to social action by communities through volunteering and building social capital (based on 11 conceptual/ theoretical papers (Cabinet Office, 2011, Communities and Local Government, 2007, Fountain et al., 2007, Glasgow Centre for Population Health, 2007, Hardill et al., 2007, Jones, 2004, Laverack, 2006, Local Government Information Unit, 2012, Sheridan and Tobi, 2010, Truman and Raine, 2001, Wallace, 2007)).

*(Assembly Government Wales Council for Voluntary Action, 2004, Attree, 2004, Beresford, 2007, Boydell and Rugkåsa, 2007, Boyle et al., 2010, Brownlie et al., 2006, Burton et al., 2006, Cabinet Office, 2011, Chadderton et al., 2008, Chirewa, 2012, Communities and Local Government, 2007, Department of Health, 2006b, Draper et al., 2010, Fountain et al., 2007, Glasgow Centre for Population Health, 2007, Hardill et al., 2007, Kennedy, 2006, Laverack, 2006, Local Government Information Unit, 2012, Mahoney et al., 2007, McDaid, 2009, Nesta, 2013, Office of the Deputy Prime Minister, 2006, Scottish Government, 2013, Sheridan and Tobi, 2010, Spencer, 2014, Truman and Raine, 2001, Wait and Nolte, 2006, Wallace, 2007, South and Phillips, 2014)

Evidence Statement 2: Policy

Policy interest in community engagement and health can be mapped across a wide range of policy areas and sectors (based on 38 policy –related articles**). These include: health policy and the NHS, local government policy and regeneration, third sector and volunteering and also health inequalities as a cross cutting policy issue. Community engagement in public health continues to be supported through these various policy drivers (4 publications: (Department of Health, 2010, Department of Health, 2012a, Department of Health, 2012b, HM Government, 2010)); however, there appears to be a greater policy emphasis on patient and public involvement (PPI) structures in relation to the NHS (6 publications: (Department of Health, 2006b, Department of Health, 2006a, Department of Health, 2007a, Department of Health, 2010, HM Government, 2012, NHS England, 2013)).

The key role of local government in leading community engagement and supporting public participation in local decision making has been a major policy theme throughout the period covered by the review (based on 4 publications: (Department for Communities & Local Government, 2006b, Department for Communities & Local Government, 2007a, Department for Communities & Local Government, 2007b, HM Government, 2007)). Community engagement and empowerment have been consistently linked to strategies to address health inequalities (3 publications: (Department of Health, 2008b, Department of Health, 2008a, Department of Health, 2009), with emphasis given to enabling individuals to play a greater part in local decisions that affect their health and lives Two specific policy initiatives identified in the review were New Deal for Communities (Lawless, 2004, Lawless P with Dickinson et al., 2007, Wallace, 2007) and Neighbourhood Management/partnerships (Office of the Deputy Prime Minister, 2006, Sustainable Development, 2010).

The contribution of individuals and communities to health and to society in general is a policy theme, with the importance of social action on health being endorsed in government documents and policy commentary. Interrelated concepts found in the map of policy include asset-based approaches, co-production, volunteering and peer support, and a number of (non-governmental) documents advocate for methods that draw on community strength and build on the lay contribution.

**(Atkinson, 2012, Bauld et al., 2005a, Blank et al., 2007, Boydell and Rugkåsa, 2007, Bridgen, 2006, Cabinet Office, 2011, Communities and Local Government, 2007, Department for Communities &

Local Government, 2006b, Department for Communities & Local Government, 2007a, Department of Health, 2004, Department of Health, 2006b, Department of Health, 2007a, Department of Health, 2008b, Department of Health, 2008a, Edwards, 2002, Kennedy, 2006, Lawless P with Dickinson et al., 2007, Local Government Information Unit, 2012, Marmot, 2010, Nesta, 2013, Office of the Deputy Prime Minister, 2006, Scottish Community Development, 2013, Scottish Community Development Centre, 2013, Scottish Government, 2013, Sustainable Development, 2010, Thraves, 2013, Wait and Nolte, 2006, Wallace, 2007, Wanless, 2002, Wanless, 2004, Welsh Assembly Government, 2008, Whitehead and Dahlgren, 2007).

Evidence Statement 3: Communities

Most community engagement activity in the UK takes place in urban or mixed (urban and rural) settings (based on 202 articles).

The health and wellbeing issues addressed most frequently by UK community engagement initiatives were community level or wellbeing outcomes, rather than individual behaviour change outcomes:

- social capital or social cohesion (n=129, 42%) e.g. improved social networks (Burgess 2014), reduction in crime (Stutely and Cohen 2004);
- community wellbeing (n=109, 35%) e.g. community resilience (Cinderby et al. 2014), empowerment (Hothi et al. 2007) ;
- personal wellbeing (n=79, 26%) e.g. positive mental health (IRISS 2012, Tunariu et al. 2011), quality of life (Nazroo and Matthews 2012);
- general health – personal (n=98, 32%) e.g. weight management (Jennings et al. 2013), healthy lifestyle promotion (Robinson et al. 2010; and
- general health – community (n=95, 31%) e.g. setting up group activities (Woodall et al. 2012), reducing health inequalities (Race for Health 2010).

Evidence Statement 4: Health inequalities

Much UK practice in community engagement is directly relevant to health inequalities (based on 122 studies coded as socioeconomic indicators (n=88 S; 34 D) e.g. deprivation (Greene 2007; Hills et al. 2013) and 119 studies coded as "other" indicators of disadvantage (n= 94 S, 25 D) – these included a range of characteristics such as:

- people with disabilities (e.g. Edwards 2002, inclusion in regeneration);
- people with learning difficulties (LD) (e.g. McCaffrey 2008, commissioning from the perspective of people with LD);
- older people (e.g. Williamson et al. 2009, Partnerships for Older People);
- offenders (e.g. Dooris et al. 2013, health trainer service);
- people with long term health conditions (e.g. Hills et al. 2007, healthy living centres);
- people with substance use disorders (e.g. Elliott et al. 2001, involving peer interviewers in research);
- Gay Lesbian Bisexual or Transgender groups (e.g. Flowers et al. 2002, bar-based peer-led sexual health promotion with gay men);
- mental health service users (e.g. O'Brien et al. 2011, volunteering in nature).

This demonstrates that CE initiatives in the UK go beyond the approach of targeting the most obvious indicators of inequality (i.e. those that are included in health equity profiles such as ethnicity, gender and occupational or socioeconomic status) and seek to engage some of the most marginalised, disadvantaged or excluded population groups.

Peer- and volunteer-based approaches to community engagement were more common in populations with "other" indicators of disadvantage than in any other group (based on 57 articles on peer approaches (43S (46%), 4D (16%)), such as peer education for preventing falls in older people (Allen 2004) and 36 articles on volunteer approaches (32S (34%), 4D (16%)), such as volunteering for mental health (Institute for Volunteering Research 2003).

Evidence Statement 5: Approaches to community engagement

The mapping review found a wide range of approaches to community engagement in the 308 included articles. Approaches aligned to community development and empowerment and/ or participatory principles are commonly used in the UK, with peer and volunteer involvement also being prominent approaches. Different approaches seem to be appropriate to address different health and wellbeing issues, for example peer, volunteer or lay involvement for targeting individual behaviour change; community mobilisation/ action or community partnerships/ coalitions for targeting community level outcomes, such as wellbeing, community assets or social capital.

Most of the initiatives with a high extent of CE took a community mobilisation/ activation approach (n=21 (64%))*, and/ or a collaboration/ partnership approach (n=26 (79%))** to community engagement. Health or wellbeing issues most frequently addressed were community wellbeing (n=15 (45%) 8D, 7S), social capital/ cohesion (n=14 (42%) 6D, 8S), general health personal (n=8 (24%) 5D, 3S), general health community (n=11 (33%) 7D, 4S). A comparatively high proportion of these initiatives were reported in the non-research literature (n=16 (20%) compared to n=17 (8%) in research literature).

* Anastacio et al. 2000; Boyle et al. 2006; Christie et al. 2012; Phillips et al. 2012; Platt et al. 2003; Quinn and Knifton 2012; Reeve and Peerbhoy 2007; Roma Support Group 2011; Spencer 2014; Webster and Johnson 2000; Coulter 2010; Coulter 2014; Fountain et al. 2007; GCPH 2007; Jones 2014; Laverack 2006; Nesta 2012; Scottish Government 2009; Stuteley 2014; Sheridan & Tobi 2010; Spencer 2014)

** Anastacio et al. 2000; Boyle et al. 2006; Christie et al. 2012; JRF 2011; Marais 2007; Murray 2010; Phillips et al. 2012; Quinn and Knifton 2012; Race for Health 2010; Reeve and Peerbhoy 2007; Roma Support Group 2011; NHS Greater Glasgow & Clyde 2010; Baines et al. 2006; Webster and Johnson 2000; Beresford 2007; Boyle et al. 2010; Brownlie et al. 2006; Coulter 2010; Coulter 2014; Fountain et al. 2007; GCPH 2007; Mahoney et al. 2007; McDaid 2009; Nesta 2012; Stutely 2014; Sheridan & Tobi 2010; Spencer 2014)

Evidence Statement 6: Outcomes

In the 218 research and evaluation studies, the most frequently reported outcome type was process outcomes (n=183 S (84%)) such as recruitment of lay workers (e.g. Chapman 2010), followed by wellbeing outcomes (n=112 S (51%)) such as confidence, self-efficacy and quality of life (e.g. White et al. 2010), and health outcomes (n=99 S (45%)) such as increased awareness and uptake of cancer screening (Curno 2014). Community level outcomes (n=91 S (42%) e.g. Barnes et al. 2004 (Health Action Zones)) were reported more frequently than outcomes at the individual level (n=79 S (36%) e.g. Platt et al. 2003 (smoking cessation)). Harmful or unintended effects (n=12 S (6%)) and economic outcomes (n=9 S (4%)), such as unit costs and funding, were reported less frequently.

Unintended or harmful effects: Evidence from 12 studies (Andrews et al., 2003, Ball and Nasr, 2011, Boydell and Rugkåsa, 2007, Bridge, 2002, Lawless P with Dickinson et al., 2007, Lorenc and Wills, 2013, McLean and McNeice, 2012, Muscat, 2010, New Economics Foundation, 2002, Skidmore et al., 2006, Steven and Priya, 2000, Ward and Banks, 2009) on unintended or harmful effects suggests that these can be positive (e.g. improved mental health in community members delivering interventions) but may also be negative or harmful, either to community deliverers (e.g. volunteers feeling overburdened), to organisations or partnerships (e.g. tensions between lay and professional role boundaries), or to the wider community (e.g. community members becoming so attached to projects that there are no places left for newer members).

Evidence Statement 7: Structure and focus of existing evidence base

There is a substantial amount of information in the following topic areas: Urban or mixed settings (i.e. both urban and rural); socioeconomically deprived groups or areas; socially excluded or isolated groups; areas that lack social cohesion; other potentially disadvantaged groups (e.g. older people; people with disabilities; people in poor physical or mental health); black or minority ethnic groups; initiatives targeting health behaviours (physical activity, healthy eating, substance use), mental health, personal and community wellbeing, general health (personal and community), social capital or cohesion; initiatives with low or moderate extent of CE; process, wellbeing, health and community level outcomes.

There is very little information, either from research, or from other sources, on what is being done in terms of community engagement in rural settings (n=11 (4%) 7 S, 4 D), or in communities that may experience health inequalities due to religion/ culture (n= 8 (3%) 4 S, 4 D) or educational reasons (n= 16 (5%) 13 S, 3 D). There is little information on harmful or unintended effects of community engagement initiatives (n = 12 S (6%)), or on economic outcomes (n = 9 S (4%)).

Review 5: 'Evidence review of barriers to, and facilitators of, community engagement approaches and practices in the UK'

Evidence statements 1 and 2: Context

Evidence Statement 1: Quality of existing relationships with communities

There is evidence from eleven evaluation studies [1-10,12] and one qualitative study[11] on the quality of existing relationships with communities.

ES 5.1.1 There is evidence from three [++] studies[1,7,12] and four [+] studies[3,8,,9,11] that a history of poor relations between communities and engaging agencies and authorities can make it difficult to get community members to attend engagement events and to keep communities on board. Mistrust and cynicism were found to be reasons for not participating in engagement activities[8,11,12]. Engagement practices which were perceived to be tokenistic or not linked to decision-making reinforced pre-exiting mistrust and cynicism and led to disengagement and disillusionment during and after community engagement[1,3,5,7].

ES 5.1.2 There is evidence from three [++] studies[1,6,10] and two [+] studies[2,11] that community engagement can be seen as a threat by communities which, as above, can make it harder to initially engage communities and keep them engaged. Experience of discrimination and exclusion by authorities[9], fear of exposure to authorities (over drug use[2], immigration status[8], or stigmatising illness[8]), a lack of tradition of engagement[4], and engagement seen as a means to divert existing funding into other initiatives[1] were all found as reasons why community engagement can be seen as a threat.

ES 5.1.3 There was no evidence found within this theme regarding facilitators to community engagement.

ES 5.1.4 There is evidence from two [++] studies[4,6] and three [+] studies[2,5,8] on how the difficulties of initially engaging communities and keeping them on board can be overcome. These were developing partnerships between engaging and community organisations[4,5], building capacity amongst the communities to be engaged to conduct outreach and engagement activities[4,5], allowing sufficient time and resources for outreach activities to build trust and acceptance, and flexibility in outreach and engagement methods[2,6].

1 Carlisle (2010) ++; 2 Christie et al. (2012) +; 3 Dinham (2007) +; 4 Fountain and Hicks (2010) ++; 5 Hatzidimitriadou et al. (2012) +; 6 Hills et al. (2007) ++; 7 Institute for Research and Innovation in Social Services (2012) ++; 8 Jarvis et al. (2011) +; 9 Lawson et al. (2009) +; 10 Marais (2007) ++; 11 Roma Support Group (2011) +; 12 Sadare (2011) ++

Evidence Statement 2: Organisational Culture, Attitudes and Practice

There is evidence from fourteen evaluation studies[1,3-11,13-16] and two mixed methods studies[2,12] on organisational culture, attitudes and practice.

ES 5.2.1 There is evidence from one [++] study[12] and two [+] studies[5,13] that a lack of organisational commitment within engaging organisations is a barrier to community engagement. This was seen within the NHS[5,12] and Local Authorities[13] and was linked to a 'slow to change' paternalistic attitude towards service users[12] and a lack of dedicated or shortage of staff[12,13].

ES 5.2.2 There is moderate evidence from one [++] study[16], one [+]study[8] and one[-]study[2] of resistance within engaging organisations to sharing power and control. This was demonstrated through practices which made it difficult for community organisations to participate in discussions such as giving too short notice for meetings[2] and putting the priorities of engaging organisations above those of the community[8,16]

ES 5.2.3 There is strong evidence from two [++] studies[3,6] and three [+] studies[1,5,14] that engaging organisations can hold a limited vision and set of expectations for community engagement in terms of: who or which sections of the community can be involved, what communities are capable of doing, and the value of the communities experience and expertise in comparison to that of professionals.

ES 5.2.4 There is strong evidence from one [++] study[6], four [+] studies[7,9,11,16] and one [-] study[10] that a supportive organisational culture, attitudes and practice, embedded throughout engaging organisations from the start facilitated the community engagement process. Building community engagement into funding requirements was effective in creating such a supportive environemet[6,9,11] and the impact of this was that communities felt a true sense of ownership over projects[7,16].

ES 5.2.5 There is moderate evidence from four [+] studies[1,4,5,14] that a committed or supportive organisational culture triggered or reinforced during the community engagement process itself, helped to motivate community workers and volunteers, and facilitated the engagement process and the delivery of subsequent projects. Community engagement in practice demonstrated more fully the benefits of harnessing local knowledge and networks[4,5].

ES 5.2.6 There was no evidence within this theme on strategies to overcome a lack of organisational commitment, a resistance to sharing power and control or a limited vision of community engagement.

1 Chau (2007) +; 2 Community Health Exchange (2012) –; 3 Harkins et al. (2012) ++; 4 Hatamian et al. (2012) +; 5 Hatzidimitriadou et al. (2012) +; 6 Hills et al. (2007) ++; 7 Jarvis et al. (2011) +; 8 Kimberlee (2008) +; 9 Lawless et al. (2007)+; 10 Lwembe (2011) -; 11 Pemberton and Mason (2008) +; 12 Robinson et al. (2010) ++; 13 Sender et al. (2011)+; 14 White et al. (2012) +; 15 Windle et al. (2009) ++; 16 Williamson et al. (2009) +

Evidence statement 3 and 4: Infrastructure

Evidence ES3: Statement Putting infrastructure and planning in place

There is evidence from twenty-seven evaluation studies[1-3,5-21, 24-30], two mixed methods studies[4,23] and one qualitative study on inclusive and accessible practice[22].

ES 5.3.1 There is evidence from one [++] study[24], three [+] studies[5,8,12] and one [-] study[4] that a lack of clarity on the goal of community engagement, lack of transparency, confused expectations and mixed messages were barriers to effective community engagement.

ES 5.3.2 There is evidence from four [++] studies[2,24,26,29], six [+] studies[3,12,15-17,21,] and one [-] study[19] that competing agendas, targets, funding priorities, values and expectations across partnerships and communities created tensions, where one agenda was favoured over another especially to the perceived detriment of communities, put a break on effective community engagement.

ES 5.3.3 There is evidence from six [++] studies[2,13,23,26,27,29], five [+] studies[1,3,11,22,28] and two [-] studies[4,7] that a lack of investment in dedicated staff, time and money was a barrier to effective community engagement.

ES 5.3.4 There is evidence from one [++] study[13], and three [+] studies[12,16,25] that projects had difficulty maintaining partnerships or networks due to high transaction costs, poor engagement, or misalignment of agendas.

ES 5.3.5 There is evidence from four [++] studies[2,10,20,24], and one [+] studies[22] that conflict over the representiveness of those engaged or favoured within communities by engaging agencies appears to have weakened some community engagement processes, lead to resentment and refusal to engage by others. Often the cause of unrepresentativeness was described by studies as due to limitations on time and resources available to the engaging agencies and, therefore, the need to be pragmatic.

ES 5.3.6 There is evidence from seven [++] studies[2,10,13,20,23,29,30], six [+] studies[5,11,16,21,22,25] and one [-] study[7] that a major barrier to effective community engagement is the limitation on time provided to build trust and relationships between engaging agencies and communities and other stakeholders, or to achieve scope and depth in community engagement. Given the evidence of the history of poor relations and mistrust between engaging agencies and communities, the lack of time to build trust and shared understanding appears to be doubly critical. Time is reported to be in short supply mainly due to a lack of capacity because of inadequate funding.

ES 5.3.7 There is no evidence in the studies about the costs of engagement, about the setting up of processes, or the investment of time or other resources in the preparation of structures, processes or mechanisms of engagement.

ES 5.3.8 There is evidence from two [++] studies[21,27], one [+] study[5] and one [-] study[7] that that setting of geographical boundaries of engagement either too wide[21,27] or too narrow[5,7] could have an adverse effect on engagement.

ES 5.3.9 There is evidence from two [++] studies[9,24], one [+] study[16] and one [-] study[19] that the presence of a strategy or process was a key enabler to effective community engagement.

ES 5.3.10 There is no evidence how engaging agencies recorded, tracked, analysed collected data from participants and integrated the findings into their decision making processes. There are indications or inferences of this but these processes need deeper investigation.

ES 5.3.11 There is evidence from two [++] studies[13,20], three [+] studies[11,18,25] and one [-] study[19] that communicating clear goals of the community engagement from the outset and of being transparent about the expected outcomes aided effective community engagement.

ES 5.3.12 There is evidence from five [++] studies[13,20,23,24,29], five [+] studies[3,15,21] and one [-] study[19] that having in place mechanisms for joint decision-making which places communities as co-producers at their heart was a facilitator for successful community engagement.

ES 5.3.13 There is evidence from seven [++] studies[2,9,10,13,20,26,29], six [+] studies[11,12,14,18,25,31] and one [-] study[19] that communicating clear goals of the community engagement from the outset and of being transparent about the expected outcomes aided effective community engagement.

ES 5.3.14 There is evidence from three [++] studies[13,20,24], and five [+] studies[6,12,16,22,25] that investing time, effort and resources into building relationships and trust between engaging agencies and communities was essential to effective community engagement. This was particularly true for communities that had difficult past relationships with engaging agencies or authorities or intra-community conflicts.

ES 5.3.15 There is evidence from two [++] studies[20,27], and three [+] studies[11,12,15] that having mechanisms to make the community engagement process a transactional and reciprocal process aids effective community engagement. Not only is this a mechanism for mutual respect and gratitude, but a way to share learning and establish a two-way dialogue between engaging agencies and communities as equals which ultimately aids effective community engagement.

ES 5.3.16 There is evidence from one [++] study[13], three [+] studies[3,5,11] and one [-] study[19] that having adequate funding was very important for effective community engagement.

ES 5.3.17 There is evidence from four [++] studies[2,9,13,27], three [+] studies[5,14,16] and one [-] study[19] that having dedicated staff in place as a facilitator to effective community engagement.

1 Burgess (2014) +; 2 Carlisle (2010) ++; 3 Chau (2007) +; 4 Community Health Exchange (2012) –; 5 Chapman (2011) +; 6 Christie et al. (2012) +; 7 Craig (2010) –; 8 Dinham (2007) +; 9 Fountain and Hicks (2010) ++; 10 Harkins et al (2012) ++; 11 Hatamian et al. (2012) +; 12 Hatzidimitriadou et al (2012); 13 Hills et al. (2007) ++; 14 Jarvis et al. (2011) +; 15 Kimberlee (2008) +; 16 Lawless et al (2007) +; 17 Lawson et al (2009) +; 18 Liverpool JMU (2012) +; 19 Lwembe (2011) –; 20 Marais (2007) ++; 21 Pemberton and Mason (2008) +; 22 Roma Support Group (2011) +; 23 Robinson et al. (2010) ++; 24 Sadare (2011) ++; 25 Sender et al. (2011) +; 26 White et al. (2010) ++; 27 White and Woodward (2013) ++; 28 Williamson et al (2009); 29 Windle et al. (2009) ++; 30 Woodall et al (2012) ++.

Evidence Statement 4: Support, Training and Capacity Building

There is evidence from fifteen evaluation studies[1-12,15-20], one mixed methods studies[14] and one qualitative study[13] on support, training and capacity building.

ES 5.4.1 There is evidence from three [++] studies[4,7,14], and three [+] studies[6,16,17] that appropriate training in community engagement and co-production for professional staff of engaging agencies is needed. Lack of these general and specific skills was seen as a barrier to effective community engagement.

ES 5.4.2 There is evidence from four [++] studies[7,11,14,20], one [+] study[9] and one [-] study[10] that appropriate training for communities was needed. Lack of skills was seen as a barrier to effective community engagement. Two studies[7,14] cite the need for training for communities. Two studies[10,11] cite the limitations in funding for the needed training particularly in more advanced skills, and one[9] questions the appropriateness of the training available. One other study[20] cautions that not everyone, especially volunteers, necessarily wants training.

ES 5.4.3 There is evidence from three [++] studies[14,7,20], five [+] studies[1,2,5,6,9] and two [-] studies[3,10] that having mechanisms to ensure appropriate mentoring and other forms of support for community members are in place to build on and sustain engagement is an important facilitator to community engagement. Several studies[1,3,9,10,20] report that health champions, health trainers, youth ambassadors, and community activators seem to particularly benefit from support in the form of mentoring which enables these mostly local volunteer community members to better engage with their target communities.

ES 5.4.4 There is evidence from six [++] studies[4,7,11,14,15,20], six [+] studies[2,6,8,12,13,19] that training and capacity building for all sections of the community are an essential facilitator to effective community engagement. All of these studies emphasise the need for training and/or capacity building of all sorts of types, for different constituencies, and for various reasons or outcomes.

ES 5.4.5 There is evidence from one [++] study[14] and two [+] studies[6,16] that networks of shared learning of best practice, and toolkits and bespoke training opportunities are facilitators to effective community engagement.

ES 5.4.6 There is evidence from one [++] study[18] and one [-] study[19] that ongoing training and support is a facilitator to effective community engagement.

1 Chapman (2011) +; 2 Chau (2007) +; 3 Craig (2010) -; 4 Fountain and Hicks (2010) ++; 5 Hatamian et al. (2012) +; 6 Hatzidimitriadou et al. (2012) +; 7 Hills et al. (2007) ++; 8 Lawless et al. (2007) +; 9 Liverpool JMU (2012) +; 10 Lwembe (2011) -11 Marais (2007) ++; 12 Pemberton and Mason (2008) +; 13 Roma Support Group (2011) +; 14 Robinson et al. (2010) ++; 15 Sadare (2011) ++; 16 Sender et al. (2011) +; 17 Tunariu et al. (2011) +; 18 White et al. (2010) ++; 19 White et al. (2012) +; 20 White and Woodward (2013) ++

Evidence statement 5 and 6: Process

Evidence Statement 5: Capabilities and the engagement process

There is evidence from twenty two evaluation studies[1-3,5-17,20-25], two mixed methods studies4,19 and one qualitative study on inclusive and accessible practice18.

ES 5.5.1 There is evidence from five [++] studies[16,18,20,24,22], and two [+] studies[3,9] that there was a lack of capacity within communities for taking part in found that there was a lack of capacity within communities for taking part in community engagement activities. A wide range of factors contributed to this lack of capacity: practical constraints and competing priorities such as disability or illness, work, childcare and family commitments; lack of understanding and language skills; and low self-esteem and confidence. Often this conflicted with the expectations of engaging organisations of what community members could contribute or reinforced engaging organisations existing low expectations.

ES 5.5.2 There is evidence from three [++] studies[2,16,22], two [+] studies[9,18] and one [-] study4 that community organisations were restricted from fully participating in community engagement due to capacity issues such as lack of funding, staff, time and competing work priorities. Again there was a corresponding underestimation by engaging organisations of the work involved for community organisations (e.g. in becoming partners with statutory organisations to deliver services of build capacity amongst the community).

ES 5.5.3 There is evidence from four [++] studies[12,16,19,24], four [+] studies[1,3,5,18] and one [-] study[11] that it was not always easy for engaging organisations and staff quality studies (to reach specific groups. Specific groups covered young people, older people, ethnic minority groups, white British. The reasons for the difficulty in engaging these groups was not always evident but included groups described as stigmatised, isolated, marginalised or vulnerable.

ES 5.5.4 There is evidence from six [++] studies[7,10,16,19,20,24], six [+] studies[5,8,9,14,15,18] and two [-] studies[5,6] that using local organisations (both community and statutory), networks and individuals, with strong links to the target communities, is essential in reaching and engaging those communities.

ES 5.5.5 There is evidence from four [++] studies[10,19,20,25], four [+] studies5,13,18,21 and one [-] study[11] that it was important to use or tailor engagement methods to particular target groups. Flexibility in approach is needed especially where a method is not reaching its intended target.

ES 5.5.6 There is evidence from one [++] study[10] and four [+] studies[8,13,17,23] that outreach was a useful method for ongoing engagement and, along with advocacy, was valuable for reaching and including particularly vulnerable or marginalised groups within engagement activities.

1 Burgess, (2014) +; 2 Carlisle (2010) +; 3 Chau (2007) +; 4 Community Health Exchange (2012) –; 5 Christie et al. (2012) +; 6 Craig 2010 –; 7 Fountain and Hicks (2010) ++; 8 Hatamian et al. (2012) +; 9 Hatzidimitriadou et al. (2012) +; 10 Hills et al. (2007) ++; 11 Lwembe (2011) -; 12 Institute for Research and Innovation in Social Services (2012) ++; 13 Kimberlee (2008) [+]; 14 Lawless et al. (2007) +; 15 Liverpool JMU (2012) +; 16 Marais (2007) ++; 17 Pemberton and Mason (2008) +; 18 Roma Support Group (2011) +; 19 Robinson et al. (2010) ++;

20 Sadare (2011) ++; 21 White et al. (2012) +; 22 White and Woodward (2013) ++; 23 Williamson et al. (2009) +; 24 Windle et al. (2009) ++; 25 Woodhall et al. (2013) +

Evidence Statement 6: Inclusive and accessible practice

There is evidence from fifteen evaluation studies[1,3-11,13-19], two mixed methods studies[2,12] and one qualitative study[11] on inclusive and accessible practice.

ES 5.6.1 There is evidence from two [++] studies[12,14] , three [+] studies[8,10,11] and one [-] study[2] that low levels of awareness and a lack of understanding of engagement opportunities, rights and structures were a barrier to effective community engagement.

ES 5.6.2 There is evidence from three [++] studies[9,14,17], two[+],[11] and one [-]study[2] that not addressing language and cultural barriers was problematic for inclusive community engagement.

ES 5.6.3 There is evidence from two [++] studies[14,19], one [+]study[15] and one [-]study[2] that the timing of community engagement events or meetings and a lack of support to help particular groups to attend were barriers to community engagement. Different timings suit different groups of people (e.g. day time preferred by older people, evening by working adults if able to feel safe) and parents, older people, those with physical disabilities and those from rural communities need additional support to attend (e.g. childcare, transport).

ES 5.6.4 There is evidence from one [++] study[14], and one [+] study[1] that a lack of appropriate venues for engagement events could be a barrier to engagement. This included a lack of accessible space for informal meetings[1] and problems with acoustics for large group meetings[14].

ES 5.6.5 There is evidence from two [++] studies[18,19] and one [-] study[3] of delays or lack of planning for obtaining Criminal Records Bureau (CRB) checks, now known as Disclosure and Barring Service (DBS) checks, for community volunteers to take up volunteering roles such as becoming a 'health champion' or a 'community activator'.

ES 5.6.6 There is evidence from one [++] study[14] and four [+] studies[5,10,11,15] that early advertising of community engagement opportunities through multiple channels was important for successful engagement. Multiple channels included a wide range of community venues (e.g. shops, fast food restaurants, launderettes), networks of community leaders, outreach and social media.

ES 5.6.7 There is evidence from four [+] studies[1,3,5,10] that providing support for non-English speakers was crucial for enabling these groups to get involved in community engagement activities. Plain English was also helpful for all groups[10]

ES 5.6.8 There is evidence from one [++] study[14] and three [+] studies[5,10,16] that suitable times for events, matched to the needs of different groups, and support to attend events (e.g. childcare support with transport) could facilitate better engagement.

ES 5.6.9 There is evidence from two [++] studies[6,14] and two [+] studies,[5,7] that using familiar and informal environments or spaces was important in engaging residents and service users.

ES 5.6.10 There was no evidence within this theme on strategies to overcome hard to access community engagement events and opportunities.

1 Chau (2007) +; 2 Community Health Exchange (2012) –; 3 Chapman (2011) –; 4 Christie et al. (2012) +; 5 Hatamian et al. (2012) +; 6 Hills et al. (2007) ++; 7 Jarvis et al. (2011) +; 8 Lawson and Kearns (2009) +; 9 Marais (2007) ++; 10 Pemberton and Mason (2008) +; 11 Roma Support Group (2011) +; 12 Robinson et al. (2010) ++; 14 Sadare (2011) ++; 15 Sender et al. (2011) +; 16 Tunariu et al. (2011) +; 17 White et al. (2010) ++; 18 White and Woodward (2013) ++; 19 Windle et al. (2009) ++

Community Engagement: Overview of economic evidence

Introduction

This paper provides a brief overview of all the economic evidence considered by the Community Engagement Public Health Advisory Committee in development of the guidance. Economic evidence was taken from: a précis reported in –'Community engagement to reduce inequalities in health: a systematic review, meta-analysis and economic analysis' (see Health Economics 1 – Précis of EPPI), a rapid update and review of economic evaluations (Health Economics 2 – Rapid Update), a cost consequences analysis (Health Economics 3 – CCA) and a review of evaluations of social return on investment (Health Economics 4 – SROI). The full reports including corresponding evidence statements are available on the NICE website here.

Health Economics 1 – Précis of EPPI

Methods

Health Economics 1 - précis of the economic chapter of the EPPI review' covered 22 studies from the systematic review 'Community engagement to reduce inequalities in health: a systematic review, meta-analysis and economic analysis'. In addition to the précis, the 22 studies were also assessed using the NICE quality appraisal checklist for economic evaluations.

Results

The 22 studies included in the précis are considered economic analysis studies by the EPPI review team, although they acknowledge that most of these studies are of limited quality and have not been undertaken intentionally as part of an economic evaluation.

Of the 22 studies, 11 studies fell into the category of peer or lay delivered interventions, eight[2] were categorised, to varying extents, as collaboration between health and statutory services and communities and three were concerned with models of engagement centred on empowerment.

Chapter 7 of the EPPI review also discusses the value of volunteering; the use of financial and other incentive mechanisms; gains and losses in human and social capital, and funding and sustainability.

Conclusions

Overall there is limited evidence on the cost-effectiveness of community engagement interventions. It is both fragmented and of limited quality as most of the included analysis have methodological limitations. Authors of the EPPI review point out that:

- Only eight studies included some form of stochastic or sensitivity analysis to address uncertainty around effectiveness and cost estimates;
- No study appeared to undertake any form of subgroup analysis;
- Only five studies looked at productivity costs; and
- Only three studies considered costs to family members.

Health Economics 2 - Rapid update

Methods

Health Economics 2: 'Community engagement – approaches to improve health and reduce health inequalities: rapid review of economic evidence' updated cost effectiveness evidence from the systematic review 'Community engagement to reduce inequalities in health: a systematic review, meta-analysis and economic analysis

The search strategy for review 1 was run in EconLit and NHS EED databases. Any economic or cost outputs from reviews 1 and 4 were considered.

Study types included in the review were:

- cost–benefit analyses
- cost-effectiveness analyses studies
- cost–utility analyses
- other relevant cost analyses, including cost–consequence analysis.

Studies were excluded if they were:

- undertaken in a non-OECD country
- non-English language studies.

[2] The review states seven but actually references eight studies.

For further information on searches and the quality criteria used to assess and score studies see Health Economics 2.

Results

Out of a total of 4,125 studies identified through the database search and 29 studies located by contractors for the other evidence reviews 68 studies were selected for full-text screening. Initially, 19 of these 68 studies met the inclusion criteria, but on reassessment eight of these studies were excluded. The review included 11 studies.

In nine studies the authors assessed **peer/lay delivered interventions**, and in two studies the authors assessed **interventions delivered in collaboration between health and other statutory services and communities.** No **interventions centred on the concept of empowerment** were assessed in this review. Table 1 summarises the numbers of studies according to these groupings. It should be noted that inconclusive cost-effectiveness does not imply intervention ineffectiveness.

Table 1: Summary findings

Type of Community Engagement	Cost-effective	Inconclusive	Not cost-effective
Peer/lay	4	3	2
Collaborative	1	1	-
Empowerment	-	-	-

Evidence statement 1: Overall, there is mixed evidence on the cost-effectiveness of community engagement approaches in improving health and reducing health inequalities.

E.S. 1.1. There is evidence from five high and moderate quality studies suggesting that community engagement approaches are cost-effective.

E.S. 1.2. There is evidence from one high quality study (UK) and one moderate quality study (UK) of community engagement approaches suggesting that they are not cost-effective

E.S. 1.3: Evidence from four moderate and high quality studies (two Canada, two US) does not allow conclusions to be drawn on the cost-effectiveness of community engagement approaches

Evidence statement 2: There is evidence that community engagement approaches aimed at encouraging people, particularly from disadvantaged groups, to participate in activities to improve their health and well-being are cost-effective.

E.S. 2.1. There is evidence from two high quality studies (one UK, one US) suggesting that community engagement approaches targeting low income groups and families are cost-effective

Evidence statement 3: Overall, there is mixed evidence on the impact that the health topic has on the cost effectiveness of different interventions

E.S. 3.1 There is mixed evidence on the cost-effectiveness of community engagement interventions aimed at patients with or at risk of type 2 diabetes.

E.S. 3.2. There is mixed evidence of the cost-effectiveness of community engagement interventions aimed at patients with or at risk of cardiovascular diseases (CVD).

E.S. 3.3. Evidence from two moderate quality studies (one UK, one Australia) suggests that community engagement approaches to promote healthier lifestyles are cost-effective

Conclusions

Evidence on the cost-effectiveness of community engagement approaches in improving health and reducing health inequalities is mixed. The extent to which conclusions can be drawn on the cost-effectiveness of community engagement approaches as a whole is limited by the broad spectrum of community engagement approaches studied and by the identification of only 11 cost-effectiveness studies in this review. It is worth noting that most studies considered a community engagement intervention either added to usual care (four out of 11 studies) or, more commonly, as an alternative to usual care (six out of 11 studies). The remaining study compared two interventions which could both be classified as community engagement interventions.

Health Economics 3 – CCA

Methods

A bespoke economic analysis was undertaken to supplement the review of economic evaluations. This used both cost–consequences analysis and the social return on investment framework.

Cost–consequences analysis was considered the most suitable type of economic analysis for this topic and for the range of likely outcomes. The results are reported in Health Economics 3 - CCA: 'Community Engagement – approaches to improve health and reduce health inequalities : cost-consequence analysis.

For the economic analysis three case studies were chosen to represent each community intervention type:

- Peer/lay delivered – *Life is Precious*
- Collaboration – *Connected Communities* (C2): Positively Local
- Empowerment – *Leeds Gypsy and Traveller Exchange* (GATE)

Results

The three case studies reported a range of benefits, including health benefits, from interventions of relatively low intervention cost (albeit on the basis of retrospective estimates which may be incomplete in some aspects). Health effects reported range from improved cancer awareness and mental wellbeing (Life is Precious) to increased breastfeeding rates, reduced postnatal depression, reduced childhood accidents and fewer cases of asthma (Connecting Communities) to improved access to health services including increased uptake of interventions known to be cost effective (HPV vaccine – Leeds Gate).

Conclusions

These impacts, together with intervention costs, could potentially be converted into QALYs and cost impacts to generate a cost-effectiveness ratio for which established benchmarks exist for judging whether an intervention is considered a good use of NHS funds (£20-30,000 per QALY gained). The findings of the Evaluation Reports, although they did not set out to investigate cost-effectiveness, suggest that these interventions could be cost-effective (or possibly cost saving). In selecting cost consequence analysis to report the results of these studies, the non-health benefits which have been reported are also captured.

Such a conclusion should, however, be treated with caution given the before and after design of the evaluations (rather than a controlled comparison). It is therefore difficult to assess to what extent the observed changes would have occurred in the absence of the intervention being investigated. An added difficulty of interpretation is that the reported results are not always specific about the time period over which changes are estimated to have occurred, the numbers who stand to benefit and the baseline from which changes have taken place. Moreover, any benefits attributed to the intervention may result from factors specific to a particular locality and may not be generalizable to other areas or settings. On the cost side, there are uncertainties such as incomplete knowledge about the resource requirements of the programmes.

Health Economics 4 - SROI

Methods

The social return on investment framework was used to review a number of studies on community engagement programmes. It is a way to measure the value and impact of initiatives on people and organisations and ensure the ‘value’ is not just measured in financial terms. A key feature of SROI is the identification of a range of stakeholders who are then involved throughout the process, including identification of relevant outcomes, use of financial proxies and adjustment for the absence of a

control group not receiving the intervention or receiving an alternative intervention. The results are reported in Health Economics 4 - SROI: 'Community Engagement – approaches to improve health and reduce health inequalities: review of social return on investment (SROI) evaluations.

Results

The search identified 185 unique references, 46 full text references were screened for eligibility and seven studies were ultimately included in the review.

In five studies the authors assessed **peer/lay delivered interventions**, and in two studies the authors assessed **interventions delivered in collaboration between health and other statutory services and communities.** No **interventions centred on the concept of empowerment** were assessed in this review.

A range of benefits are reported across all the projects. For example, increased physical health as a result of increased regular physical activity, more social contacts, increased confidence, less isolated and experience of new activities are among the benefits attributed to the Glasgow Health Walks (GHW) scheme. The SROI ratio was calculated by comparing the total inputs for the scheme of £48,705.15 with the present value of benefits over 5 years of £384,630.27. Dividing this present value by the value of inputs, it was calculated that the GHW can generate £8 per £1 invested.

For the 5 peer/lay schemes the SROI ranged from £2.7 per £1 invested for the Bengali Women's Conversation Group (part of the Community Libraries programme) to £12.79 per £1 invested for Parent Champions for childcare.

Of the 2 collaborative schemes, Healthwise generated an SROI of £3.55 per £1 invested and Life Expectancy in Wirral £5.53 per £1 invested.

All the projects were undertaken among disadvantaged groups. In terms of methods, the studies generally followed the key steps identified in the guide to social return on investment produced by Social Value UK.

Conclusion

All studies attempted to make some allowance for the absence of a control group by adjusting for deadweight, displacement, attribution and drop off. Information on costs was also generally set out clearly and in some detail and, in the better-reported studies (Stick 'n 'Step, Wirral Life Expectancy, Glasgow Health Walks, ICDH and Community Libraries), the numbers of beneficiaries were clear and

the calculation of benefits was set out in some detail in a way which allowed relatively straightforward replication of the values attached to individual benefits. However, it was not always possible to reproduce the overall claimed benefit figures from the information provided on individual categories of benefit. This makes interpretation of results difficult, particularly given a common feature of a number of studies that one or a small group of benefits tended to dominate the calculations. Other issues affecting the interpretation of the results include the extent to which quantitative changes in health and wellbeing and other outcomes rely on qualitative information obtained from interviews or focus groups, the representativeness of the respondents to interviews and participants in focus groups and the validity of qualitative data collection instruments used. The findings of this sample of SROI studies should therefore be interpreted with caution.

Committee conclusions

Overall, members considered that the three broad types of community engagement (peer/lay, collaborative, empowerment) are probably cost effective. But they highlighted the need for better research on cost effectiveness and that this should include any associated opportunity costs. Based on all the evidence presented, the Committee is confident that community engagement offers economic benefits for communities."