



Scoping review of review-level evidence on co-production in local decision-making and its relationship to community wellbeing

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Review team

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1. Summary

There is growing evidence that an **individual's** level of power to influence decisions in workplace and healthcare settings and in the living environment impacts on their health and wellbeing (Theorell et al, 2015; Shay and Lafata, 2015; Durand et al, 2014; Whitehead et al, 2014). Current evidence shows that the more power or control over their lives individuals have, or feel they have, the better it is for their health and wellbeing.

While there seems to be plenty of action aimed at empowering **communities**, there is currently little evidence on how such interventions impact on the health and wellbeing of individuals and communities. Close inspection of evidence on interventions such as collaborative health promotion and volunteering shows that they rarely involve people in decision-making; simply being involved does not necessarily mean that people are empowered. Furthermore, when people do appear to be empowered through interventions, health and wellbeing impacts are rarely measured as part of evaluations (O'Mara-Eves et al, 2013; Jenkinson et al, 2013). It is clear that we need more health and wellbeing-focussed evaluations of community empowerment interventions, and we also need to bring together the limited evidence that is available.

In the first part (Stage 1) of a three-stage exploration of the current evidence-base, we (the Community Wellbeing Evidence Programme) conducted a review of **review-level** evidence on the links between co-production in local decision-making and community wellbeing/wellbeing inequalities.

To maximise our chances of locating potentially scarce and hard-to-find evidence, we used iterative and multi-faceted approaches to locate relevant reviews. This involved searches of nine systematic review and academic databases (Cochrane Database of Systematic Reviews, DARE, Campbell Library, Joanna Briggs Institute, Epistemonikos, Medline and Medline In Process, PsycINFO, the Social Science Citation Index and the Arts and Humanities Citation Index), four grey literature databases/sources (Conference Proceedings Science Citation Index, ProQuest Dissertations & Theses, Google and Google Scholar), and consultation with topic and systematic review experts. From a total of 4938 unique records we identified three reviews that met our inclusion criteria – each containing evidence from studies on wellbeing-related impacts of joint decision-making interventions in communities of place.

Being broader in scope, the included **reviews** did not specifically synthesize findings from evaluations of co-production in local decision-making interventions, or similar. Instead they synthesized findings on wider concepts of engagement, participation, and co-production/co-design. It was not therefore a matter of simply synthesizing the main findings of the reviews, given that most were unrelated to our focus/inclusion criteria. To address this important issue and to avoid conflation of concepts, intervention types and findings, we took the unusual step (for a review of reviews) of closely examining evidence presented in the relevant primary studies within the reviews. This allowed us to identify and report only the relevant findings from within each review.

Eight **primary studies**, within the three included reviews, presented evidence from evaluations of community and stakeholder involvement in the design, governance, or delivery of local infrastructure and urban regeneration interventions in low socioeconomic communities in the UK, US, Israel, Togo, Indonesia, and Brazil. Together these studies suggest that joint decision-making/co-production were associated with **beneficial** changes to levels of depression, sense of community, social capital, partnership working, adult skill development, learning and training, individual mastery, self-esteem, and sense of empowerment. Associations were also found between increased joint decision-making and increased levels of employment, childhood vaccinations, and provision of water and sanitation services. Two of the primary studies also found evidence of associations between joint decision-making and **adverse** impacts including consultation fatigue, distress and frustration, and physical and mental strain from accessing and participating in decision-making processes. Evidence on other potential co-production related interventions such as participatory budgeting and citizens' juries were not located within the reviews. The reviews and their included primary-level studies had important limitations. All the primary-level evidence was based on evaluations that used inherently weak study designs, with most being post-intervention, single time-point studies without comparator groups. Limited information provided both within the reviews and their included primary studies made it very difficult to distinguish studies that met our empowerment focused inclusion criteria. While most focussed on low socioeconomic status groups, no comparisons were made with higher socioeconomic groups, and only one study examined wellbeing inequalities between population sub-groups (disabled/non-disabled people). No primary evidence on the distribution of impacts (inequalities) across sub-populations by gender, ethnicity, religion, sexuality or other characteristics was located. Such limitations mean that the findings may have limited reliability and generalizability.

Future research should (i) clearly define and demarcate concepts that are typically conflated, (ii) provide detailed descriptions of how participants are involved in decision-making, (iii) measure relative levels of empowerment and changes resulting from involvement, (iv) measure health and wellbeing outcomes at individual and community levels, and (v) incorporate well-chosen comparator groups within evaluations. Stronger research designs are also needed to develop the evidence-base.

In our systematic review (Stage 2) we will attempt to address the main limitations in the current review-level evidence-base, by locating all primary evaluations of community wellbeing and wellbeing inequality impacts of co-production/joint decision-making interventions.

2. Introduction

Background

This report was commissioned by the What Works Centre for Wellbeing (WWCW). The WWCW is part of a network of What Works Centres: an initiative that aims to improve the way the government and other organisations create, share and use high quality evidence for decision-making. The WWCW aims to understand what governments, businesses, communities and individuals can do to improve wellbeing. They seek to create a bridge between knowledge and action, with the aim of improving quality of life in the UK. This work forms part of the WWCW Community Wellbeing Evidence Programme, whose remit is to explore evidence on the factors that determine community wellbeing with a focus on the synthesis and translation of evidence on **Place** (the physical characteristics of where we live), **People** (the social relationships within a community) and, **Power** (the participation of communities in local decision-making).

During extensive stakeholder engagement (in workshops, an on-line questionnaire, community sounding boards, and one-to-one interviews), the Community Wellbeing Evidence Programme identified priority, policy-related topics within which evidence reviews were to be undertaken. One of the priority topics identified was **co-production in local decision-making**. Stakeholders consistently raised co-production and related concepts, such as empowerment and participation in local decision-making, as key ingredients to community wellbeing (Community Wellbeing Evidence Programme 2015).

The role of individuals and communities in shaping the material and social conditions in which they live is recognized as a potentially fundamental determinant of community wellbeing. Empowerment-based approaches, which may include co-production in local decision-making, were recommended by the World Health Organization Commission on the Social Determinants of Health, and the Marmot Review of Health Inequalities in England Post-2010, which placed the empowerment of individuals and communities at the center of necessary actions to reduce local, national and global inequalities in health and wellbeing (CSDH, 2008; Marmot, 2010).

Purpose of the scoping review, and place within the programme

This 'scoping' review represents **Stage 1** of the Community Wellbeing Evidence Programme's examination of evidence on the impacts of co-production in local decision-making on community wellbeing. This stage sought to identify the extent of evidence, strengths and weaknesses in existing

knowledge, and current gaps in the evidence-base. Its focus was on evidence from previously published reviews. More in-depth research on evidence from primary studies will subsequently be undertaken during a Stage 2 systematic review and synthesis of evidence. See Box 1 for further information on the stages of evidence synthesis within the Community Wellbeing Evidence Programme.

Box 1: Stages of evidence synthesis within the Community Wellbeing Evidence Programme

Stage 1: ‘Scoping’ reviews to identify the current state of review-level evidence on the key community wellbeing topic areas identified by stakeholders. Designed to identify the strengths and weaknesses in existing knowledge and current gaps in the evidence-base. Findings are then used as the basis for identifying approaches and priority areas for more in-depth research during systematic reviews.

In this Stage 1 scoping review, searches were also designed to provide an insight into the potential availability of evidence from primary studies and the feasibility of conducting a full systematic review during Stage 2.

Stage 2: If feasible and appropriate (i.e. if sufficient primary-level evidence is available, and if a new review would usefully fill a gap in the current knowledge base), a systematic review of the community wellbeing impacts of co-production in local decision-making interventions.

Stage 3: based on the findings of Stages 1 and 2, identification of a ‘roadmap’ for future academic research, and ‘frontline’ evaluation.

Aims of the scoping review

The review had three aims:

1. Identify all published reviews of empirical evidence on co-production in local decision-making (interventions and policies) with an impact on community wellbeing.
2. Review publications and identify potential beneficial or adverse impacts of co-production in local decision-making on community wellbeing, including the distribution of impacts within and across population groups (e.g. socioeconomic, age, ethnic, gender, geographic location/place).
3. Highlight gaps in the review-level evidence and make recommendations for a future systematic review.

3. Questions, definitions and scope of the review

Research and review questions

Research question

The overarching research questions was:

What review-level evidence links co-production in local decision-making to community wellbeing/wellbeing inequalities?

Review questions

The research question was broken down into three review questions:

RQ1. What is the evidence on mechanisms and pathways between co-production in local decision-making and community wellbeing/wellbeing inequalities?

RQ2. What is the evidence on the community wellbeing/wellbeing inequality related impacts (beneficial and adverse) of interventions to promote co-production in local decision-making?

RQ3. What are the current gaps in the evidence, including by topic or intervention type, strength of the evidence, or coverage of the evidence by population groups (e.g. age, gender, ethnicity, socioeconomic status)?

Definition and demarcation of key concepts

Part of the remit of the Community Wellbeing Evidence Programme is to investigate current and potential future use of definitions and measures of community wellbeing. This work is iterative and ongoing. We have, therefore, adopted 'working definitions' of key concepts here.

Co-production:

The working definition of *co-production* adopted was:

'Co-production means designing and delivering public services in an equal and reciprocal relationship between professionals, people using services, their families and their neighbours' (Adapted from New Economics Foundation, 2009).

Local decision-making:

The working definition of *Local decision-making* adopted was:

'Decisions that have an impact on the material and social conditions in which individuals and communities live'.

Our focus is on the living environment of communities, rather than on working environments or institutional environments such as healthcare or education.

We take the view that co-production in local decision-making is an approach that should **empower** people to influence the decisions that affect their daily lives. This is distinct from approaches that allow people to be involved, engaged, to participate or volunteer in activities or services, that present limited or no opportunity to initiate or influence the design or nature of the activities or services.

Based on this definition, a range of **related concepts** were included in the review:

- Joint decision-making/service design/planning/production/policy-making.
- Shared decision-making/service design/planning/production/policy-making.
- Lay involvement in local decision-making.
- Co-design, co-production in local service design.
- Community participation in local decision-making.

Wellbeing:

We adopted the ONS (2015) definition of wellbeing:

'Wellbeing, put simply, is about “how we are doing” as individuals, communities and as a nation and how sustainable this is for the future. We define wellbeing as having 10 broad dimensions which have been shown to matter most to people in the UK as identified through a national debate. The **dimensions** are:

- The natural environment
- Personal wellbeing
- Our relationships
- Health
- What we do
- Where we live

- Personal finance
- The economy
- Education and skills
- Governance' (ESRC, 2014).

Community wellbeing:

The definition of community wellbeing developed during the collaborative development phase of the Community Wellbeing Evidence Programme was also considered:

'community wellbeing is about strong networks of relationships and support between people in a community, both in close relationships and friendships, and between neighbours and acquaintances' (Community Wellbeing Evidence Programme, 2015).

In addition, concepts related to community wellbeing such as 'social wellbeing', 'social capital', 'social cohesion', 'social inclusion', and 'community resilience' were also considered (Elliot et al. 2013).

When we refer to 'community wellbeing' throughout this document, this includes the wellbeing of individuals and groups, and determinants of their wellbeing, as components of community wellbeing.

Wellbeing inequality:

For the purpose of this review, we define wellbeing inequality as:

'variations in levels of wellbeing within and across population sub-groups, including by area, socio-economic status, age, gender, health and disability status, sexuality, and religion.'

Scope of the review

We adopted a broad view of community wellbeing, including all of the ten dimensions of wellbeing listed above, and looked to see what review-level evidence links co-production in local decision-making to these dimensions. We searched for review-level evidence on how co-production in local decision-making is linked to wellbeing/wellbeing inequalities, and the potential beneficial and adverse impacts of co-production interventions on community wellbeing/wellbeing inequality.

To focus on co-production in decision-making in communities, evidence was limited to reviews of studies set in the living environment. This excluded reviews of studies conducted in workplaces and institutions (for example, schools, prisons and hospitals).

Given the findings of an extensive review of theory and empirical evidence on control/empowerment and health and wellbeing, completed in 2014 (Whitehead et al., 2014), we anticipated that evidence on the health and wellbeing impacts of empowerment-related interventions would be scarce, particularly at review-level. In this Stage 1 scoping review we therefore designed searches to identify evidence from both reviews and primary studies. If review-level evidence was not located, we would at least be able to ascertain if a sufficient number of primary studies were likely to be available for synthesis within a subsequent Stage 2 systematic review.

4. Methods

Identification of evidence

The search was developed by experienced systematic review specialists (AP, GP). The primary aim of the search was to identify reviews of co-production in local decision-making (and related concepts) that relate to the ten dimensions of wellbeing. A secondary aim was to identify examples of individual studies on co-production and wellbeing to inform, and test the feasibility of conducting, the later Stage 2 systematic review. To maximise our chances of locating potentially scarce and hard-to-find evidence on co-production in local decision-making and wellbeing outcomes, we adopted an iterative and multi-faceted approach. This involved two separate searches of academic databases, searches of grey literature, and consultation with topic and systematic review experts.

The first database search was limited to searches of titles only and used a narrow range of terms for co-production and decision-making, with no limitations to review-level evidence. We then used the findings of the first search, and consultation with topic and review experts, to develop a second database search (and grey literature searches) of titles and abstracts that used a wider range of terms for co-production, but with limits to review-level evidence. We conducted freetext searches to address potentially serious limitations in the indexing of such evidence in databases. Restrictive search filters were limited to English language and date range only. Informed by our initial search findings, we extended the date limitation in the second search from 1990 to present-day, to 1980 to present-day. Examples of the academic and grey literature search strategies are shown in Appendix 1.

The steps taken to identify evidence are summarised below.

1. Search of databases which contain systematic reviews (Cochrane Database of Systematic Reviews, DARE, Campbell Library, Joanna Briggs Institute, Epistemonikos).
2. Initial liaison with topic experts to identify relevant sample publications, for inclusion in the review, for citation searching, and for use in developing search terms and combinations.
3. First stage target search of Medline and Medline In Process, PsycINFO, the Social Science Citation Index and the Arts and Humanities Citation Index (within Web of Science) databases (search strategy 1, Appendix 1).

4. Review and identification of additional search terms and databases following further liaison with topic and review experts, before piloting, adaptation and implementation of second stage targeted searches of Medline and Medline In Process (via OVID), PsycINFO (via EBSCOhost), the Social Science Citation Index (via Web of Science), the Conference Proceedings Science Citation Index (via Web of Science), ProQuest Dissertations & Theses (via Web of Science), Google and Google Scholar (search strategies 2 & 3, Appendix 1).

The first search identified 3021 unique records, after deduplication of results across the databases. The second search identified an additional 1917 unique records after deduplication across the databases and the first stage search results. A total of 4938 unique records were then sifted according to our inclusion and exclusion criteria.

The chance of missing any relevant reviews during database searches was minimal, and these papers were likely to be retrieved during the other steps described here.

In light of the potential paucity of the evidence, we did not restrict the search via country as some non-OECD countries may have interventions/data of interest. In addition, published search filters to identify evidence from specific countries are often unsuccessful. We restricted the included studies to English language only for purely pragmatic reasons, as there were no translation or foreign language search-term development resources within the review team.

5. Citation searching ('snowballing') of the reference lists of all reviews retrieved in steps 1-4. (above) to identify additional review publications.
6. Search of topic relevant websites potentially containing review-level evidence.

Scoping review inclusion and exclusion criteria

50% of titles and abstracts were screened by two reviewers. Upon comparison, the rate of agreement was over 90%. The remainder were screened by just one reviewer. Records/articles included during title and abstract screening were then retrieved as full texts, before independent full text screening by two reviewers. Queries or disagreements on the coding of records were resolved by discussion or recourse to a third reviewer. The screening and inclusion/exclusion process was managed within EPPI Reviewer 4 systematic review management software.

Review characteristics (to be included in the scoping review)

- Published between 1980-2016.

- Published in English Language.
- Reviews of intervention studies.
- Any article/document that defines itself as a review of evidence, namely an article/document that summarises the findings of two or more original research articles.
- Qualitative and quantitative reviews, using all types of review methodology.

Content inclusion

- Reviews reporting evidence linking co-production in decision-making terms and community wellbeing/wellbeing inequality outcomes.
- Reviews reporting co-production in decision-making and outcomes related to any of the ten dimensions of wellbeing.
- Reviews of studies conducted in the living environment.
- Reviews reporting measurable impacts on wellbeing/wellbeing inequalities at the level individuals or communities.

Content Exclusion

Reviews of studies conducted outside the living environment (in institutional or workplace environments).

Identification of primary studies to inform Stage 2 systematic review

We subjected any primary studies identified by the searches to the same inclusion and exclusion criteria as the review-level evidence, with the obvious exception that they were primary and not review-level studies. Primary studies that passed title and abstract screening were then set aside for examination within the potential, Stage 2 systematic review. Reviews containing primary studies of potential interest were also set aside for further examination in the Stage 2 systematic review.

Data extraction

Data from included studies was extracted into pre-designed and piloted forms (see Appendix 2). Extractions were checked for accuracy and completeness by a second reviewer.

Quality assessment

Reviewers assessed the quality of included review-level evidence using a modified and piloted version of the Centre for Evidence-based Medicine Critical Appraisal Checklist for systematic reviews (see Appendix 3). Working in pairs, the reviewers cross-checked and discussed the assessments

before producing an agreed version. Whitehead et al (2014) was independently appraised by a further reviewer to address a potential conflict of interest, as one of our team (AP) was an author. The purpose of the quality assessment was not to include or exclude reviews based on quality, rather to provide information for the assessment of the overall relevance of the review.

An assessment of included review search strategies was also conducted to identify potential gaps, in quality and coverage (in search or topic areas) of the review-level evidence.

Evidence synthesis and reporting

Findings were narratively synthesised. Reporting includes information on:

- Characteristics of included reviews.
- Methodological quality of included reviews.
- What the reviews and their included primary studies found.
- Relevant interventions.

To inform any future (Stage 2) systematic review, we also provide information on primary studies that are likely to meet relevant (future) inclusion/exclusion criteria.

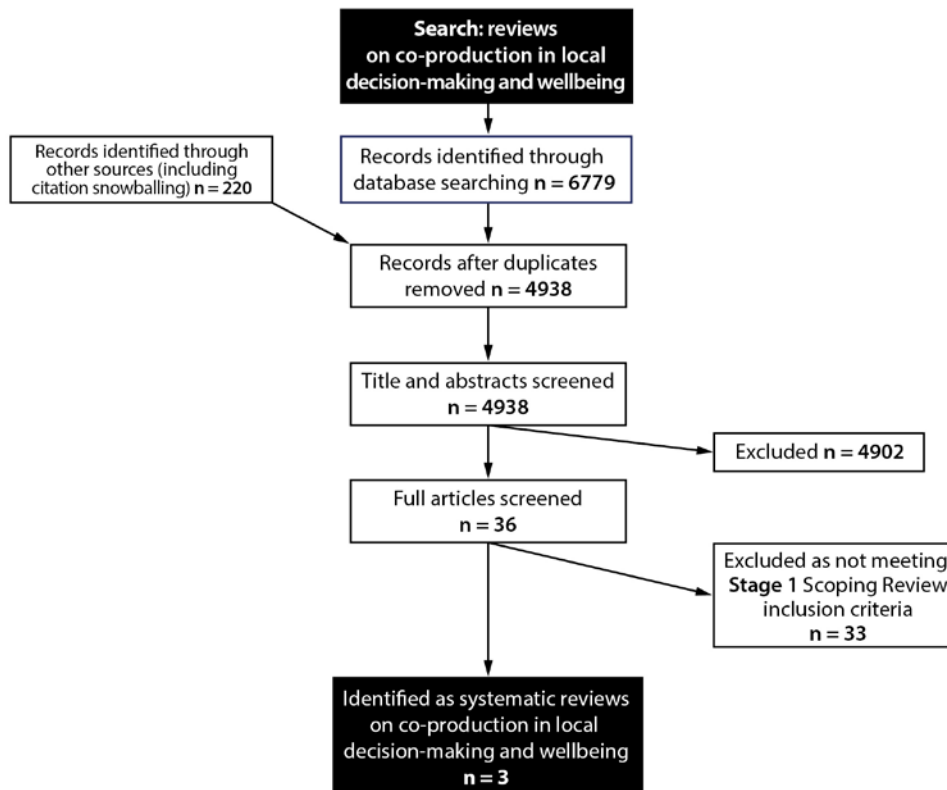
5. Results

Results of the literature search

From an initial 4938 unique records, three reviews that met our inclusion criteria were included.

Figure 1 shows the progression of studies through the scoping review process.

Figure 1: PRISMA flow chart of the progression of studies through the review



Information on the reasons for excluding studies at the full text/article screening stage is within Appendix 4.

Characteristics and methodological quality of included reviews

Information on the characteristics of the three included reviews are shown in Table 1. Two of the reviews were systematic, with a global coverage of evidence from low to high income countries (Whitehead et al., 2014; Voorberg et al., 2015). One ‘rapid’ review used a methodology informed by the NICE methods manual for the development of public health guidance (National Institute for Clinical Health and Excellence, 2006), and covered relevant evidence from the UK (Attree, 2011). Each review included some primary-level evidence from evaluations of community and stakeholder

involvement in the design, governance, or delivery of local interventions. Community wellbeing-related outcomes evaluated included perceptions of changes to resident reported satisfaction with services, local perceptions of impacts on social capital, social cohesion, local partnership working, and changes to self-reported individual physical and mental health. Most of the reported outcomes were based on self-reported subjective measurements, with exceptions being levels of childhood immunizations, employment, and the provision of water and sanitation services.

All three of the included reviews had wider scope than our inclusion criteria, for example, covering the broader concept of community engagement and related evidence. This is illustrated by the larger number of 'total included intervention studies' than 'Included intervention studies meeting our inclusion criteria' shown in Table 1. The three reviews contained only eight primary studies of interventions that meet our inclusion criteria, from a total of 157 intervention studies.

Table 2 contains a summary of our assessments of the methodological quality of the included reviews. The assessments were based on the information in the publications and any additional information on approaches that were cited and available. We contacted the authors of Attree et al (2011) to confirm that the methods employed were reported in an earlier publication (i.e. Popay et al., 2007). Limited or unclear information was provided on methods in one of the three reviews. Voorberg et al. (2015) provide no evidence that they conducted an assessment of the quality of their included studies. Missing or unclear reporting of information on quality appraisal methods or results has a particularly adverse impact on our assessment of quality. Although Attree et al. (2011) is entitled 'rapid review', it was based on comprehensive searches and systematic methods similar to those currently used in systematic reviews of complex social determinants of health and wellbeing. One review was rated as lower 'relative' quality overall, and two as higher quality. We describe the assessment of overall quality as 'relative' because their quality is relative within this specific body of evidence, and because reviews of complex social determinants of health and wellbeing are based on studies with a high degree of heterogeneity of variables, settings and populations studied.

Table 1. Characteristics of reviews containing evaluations of community wellbeing-related impacts of co-production in local decision-making

Study	Review type	Geographic coverage	Intervention types (of interest)	Total included primary intervention studies	Primary intervention studies (within the reviews) meeting our inclusion criteria	Community wellbeing-related outcomes
Whitehead et al. (2014)	Systematic review	Global	Collaboration between community and public agencies in the design and delivery of urban renewal schemes	13	3	Individual health & wellbeing outcomes, primary health care access (child vaccinations)
Attree et al. (2011)	Rapid review	UK	Community involvement in decision-making on design, governance & delivery of area-based initiatives, or interest group projects (e.g. poverty)	22	4	Social capital, social cohesion, partnership working, skill development, employment, perceived physical & psychological health, individual and group empowerment, satisfaction with process.
Voorberg et al. (2015)	Systematic review	Global	Citizen co-production or co-creation of public services (co-initiation, co-design, or co-implementation)	122	1	Cost & provision/access to water & sanitation services

Table 2. Summary of methodological quality assessment (QA)

Study	QA of primary studies conducted?	QA sufficient?	Likely that studies were missed?	Appropriate inclusion criteria?	Valid inclusion?	Results similar across studies?	Appropriate presentation of results?	Relative overall methodological quality
Whitehead et al. (2014)	Yes	Yes	No	Yes	Yes	Yes	Yes	Higher
Attree et al. (2011)	Yes	Yes	No	Yes	Yes	No	Yes	Higher
Voorberg et al. (2015)	No	N/A	Yes	Yes	Yes	Unclear	No	Lower

Findings from the reviews

The included reviews did not specifically synthesize findings from evaluations of co-production in local decision-making interventions; they synthesized findings on wider concepts of engagement, participation, and co-production/co-design. It was not therefore a matter of simply synthesizing the main findings of the reviews, given that most were unrelated to our focus/inclusion criteria. To address this important issue and to avoid conflation of concepts, intervention types and related findings, we took the unusual step (for a rapid review of reviews) of closely examining primary studies within the reviews. This enabled us to identify and report only the relevant findings from within each review (see Table 3).

RQ1. What is the evidence on mechanisms and pathways between co-production in decision-making and community wellbeing/wellbeing inequalities?

Unfortunately, the identified evidence was too limited in coverage and detail to enable us to develop a clear and comprehensive understanding of the mechanisms and pathways between co-production in local decision-making and community wellbeing/wellbeing inequalities (**RQ1**). Further identification and examination of primary studies during a later Stage 2 systematic review may enable this.

Table 3. Summary of primary-level study interventions, outcomes, findings and designs.

Study, year & setting	Intervention empowerment type	Wellbeing-related Outcomes	Summary of findings	Study design
FROM WHITEHEAD et al. (2014)				
Semenza et al., 2007. USA	Community involvement in urban regeneration decision-making & delivery	Depression, sense of community, social capital	Beneficial impacts on levels of depression, sense of community, social capital	Before & after study (quantitative)
Itzhaky & York, 2002. Israel	Community involvement in urban regeneration decision-making & delivery	Individual mastery & self-esteem; family, service delivery, & community empowerment	Beneficial impacts on individual mastery & self-esteem; family, service delivery, & community empowerment	Before & after study (quantitative)
Eng et al., 1990. Togo, Indonesia	Community involvement in water resource project decision-making	Childhood immunisation coverage	Beneficial impact on vaccination coverage	Post-intervention study (quantitative)
FROM ATTREE et al. (2011)				
ODPM, 2004. England.	Co-governance of urban regeneration programme	Social capital, social cohesion, partnership working, informal skill development, employment	Beneficial impact on social capital, social cohesion, partnership working, informal skill development, employment	Post-intervention (multiple case studies, mixed methods)

Edwards, 2002. UK	Involvement of disabled residents in urban regeneration projects decision-making	Physical & psychological demands of access & contribution to decision-making processes.	Adverse physical & psychological impacts ('strain') of engagement processes.	Post-intervention (qualitative)
Cole et al., 2004. UK	Community involvement in housing regeneration decision-making	Individual and group empowerment. Individual and group satisfaction with process.	Beneficial impact on personal empowerment Adverse impacts from consultation fatigue, some found processes distressing or frustrating	Post-intervention (qualitative)
ODPM, 2005	Co-governance of urban regeneration programme	Adult learning, training, employment, social networks, fear of crime	Beneficial impact on participant learning, training, employment, social networks	Post-intervention (qualitative)
FROM VOORBERG et al. (2015)				
Ostrom, 1996. Brazil.	Community involvement in infrastructure project decision-making & delivery	Cost & provision/access to water and sanitation service	Beneficial impacts on cost & provision/access to water and sanitation service.	Post-intervention (descriptive case study)

RQ2 - What is the evidence on the community wellbeing/wellbeing inequality effects (beneficial and adverse) of interventions to promote co-production in decision-making?

Although the **review-level** evidence was not specific to our focus/inclusion criteria, they did contain primary studies with evidence on a range of associations between joint community and stakeholder decision-making and health and wellbeing-related outcomes (Table 3).

The **primary studies**, within the included reviews, contained evidence that increased levels of joint decision-making/co-production were associated with **beneficial** changes to levels of depression, sense of community, social capital, partnership working, skill development, leaning and training, and individual mastery, self-esteem, and sense of empowerment. The primary studies also found associations between increased joint decision-making and increased levels of employment, childhood DTP vaccinations, and provision of water and sanitation services. Two primary studies also found evidence of potentially harmful associations between joint decision-making and **adverse** impacts from consultation fatigue, distress and frustration, and from the physical and psychological strain of accessing and participating in decision-making processes for people with disabilities, particularly in comparison to non-disabled people (Cole et al., 2004; Edwards, 2002 – In Attree et al., 2011). Only one study (Edwards, 2002) made a comparison between two population sub-groups (disabled and non-disabled), to provide an indication of potential impacts of joint decision-making on wellbeing inequality.

The primary-level studies reported on impacts on study participants, i.e. the community and wider stakeholders involved in the processes of decision-making. The existence or extent of any wider impacts on other community members, or the community as a whole, was unclear.

Only two primary studies used relatively stronger (though still weak) 'before and after' intervention study designs (with quantified results); these were both contained within a systematic review by Whitehead et al. (2014). Semenza et al. (2007) conducted a longitudinal before and after study of the health and wellbeing impacts of a programme that involved community members and public authorities in decisions and activities which restored public squares in Portland, USA. They reported post intervention reductions in (Center for Epidemiological Studies Depression-scale 11) depression ($p = 0.03$), increased sense of community ($p=0.01$), and an overall expansion of social capital ($p = 0.04$). However, they reported no effect sizes. Based on a series of cross-sectional surveys during and after an intervention to improve community services and empower an economically deprived community in Israel, Itzhaky and York (2002) reported that participants' mean levels of mastery increased by 19% between 1990 and 1993, and self-esteem increased by approximately 18% between 1990 and 1993 ($p<0.01$). Mean family empowerment levels increased by approximately 27% (from 2.24 in 1992 to 2.84 in 1997, $p<0.01$), service delivery empowerment increased by 8% (from 3.49 in 1992 to 3.78 in 1997, $p<0.01$) and community empowerment increased by approximately 5% (from 3.73 in 1992 to 3.91 in 1997). One other study included in Whitehead et al.'s (2014) review attempted to quantify the impacts of community participation in decision-making during a collaborative water supply project. Eng et al. (1990) conducted a cross-sectional study in villages in Togo and Indonesia and made a post-intervention only comparison between water supply projects that involved community decision-making, those that did not involve community decision-making and villages where there were no water supply projects. In villages with communities involved in decision-making it was reported that 25-30 percent more children received immunizations.

RQ3 - What are the current gaps in the evidence, including by topic or intervention type, strength of the evidence, or coverage of the evidence by population groups?

We identified a number of gaps in the current evidence-base, particularly at review-level.

At **review-level**: we only located two relatively higher quality reviews, and one lower quality review. None of the included reviews focussed, or synthesised evidence, specifically on co-production in local decision-making and its relationship to community wellbeing. The three included reviews did, however, include primary-level studies of interest.

At **primary study-level**: evidence was limited by topic and intervention type, with most of the evidence being concerned with urban land-use/regeneration interventions. Evidence on other potential co-production related interventions such as participatory budgeting and citizens' juries were not located within the reviews. Information on community governance was limited. All the included primary-level studies used inherently weak study designs. While most of the primary studies focussed on low socioeconomic status groups, no comparisons were made with higher socioeconomic groups. Only one relevant primary study made a comparison between the experiences of a group potentially subject to inequalities in access to decision-making and wellbeing-related outcomes – a comparison between disabled and non-disabled people. No primary evidence pertaining to the distribution of impacts (inequalities) across sub-populations by gender, ethnicity, religion, sexuality or other characteristics was located.

6. Discussion and Conclusions

As anticipated, there were few reviews of evidence from studies of (clear) empowerment-based approaches to co-production in local decision-making. The concepts and related interventions of engagement, involvement, participation, consultation, volunteering and empowerment are frequently conflated in the current evidence-base. Virtually all reviews of evidence to date have failed to operationalise long established conceptual demarcations between related, but fundamentally and functionally different, concepts of community involvement and empowerment as were illustrated, for example, within Arnstein's Ladder of Citizen Participation as early as 1969. While there seems to be plenty of action aimed at enabling communities to have meaningful influence on local policies and services, there currently appears to be little evidence on how such interventions actually impact on individuals' health and wellbeing.

All of the reviews and their included primary-level studies had important limitations. The value of Voorberg et al.'s (2015) review was compromised by a lack of information/clarity about the nature of interventions and findings from individual studies, and by having no quality assessment process. Most of the primary studies included within the reviews were post-intervention, single time-point evaluations with no comparator groups. Even the strongest of these primary studies, the two 'before and after' studies, have ineffective designs with no comparator groups and inherently low capability of establishing causal relationships. One issue that is seldom acknowledged is that for participants, simply being involved in the research may have changed their behavior and led to a confirmation bias favouring expected outcomes. Only one primary study (Edwards, 2002) examined issues relating to wellbeing inequality. According to Attree et al. (2011), most of the primary studies failed to provide detailed descriptions of the interventions or the methods employed within the evaluations, and our own scrutiny of the primary-level evidence within the reviews points to the same conclusion. There may also be a publication bias towards evaluations of professionally-led interventions. Limited information both within the reviews and their included primary studies made it very difficult to distinguish studies that met our empowerment focused inclusion criteria. Limitations within the reviews and primary studies mean that the findings may have limited generalizability.

Future interventions and studies should attempt to address these issues by (i) clearly demarcating concepts to avoid future conflation, (ii) providing adequate description of how those participating were meaningfully involved in decision-making, (iii) measuring relative levels of empowerment (using consistent definitions) and any change resulting from involvement, (iv) using established tools to measure health and wellbeing outcomes at individual and community levels, and (v) incorporating

well-chosen comparator groups within evaluations. Stronger, longitudinal research designs are needed to develop the underlying evidence-base. We also need to bring together all of the, albeit limited, primary-level evidence that is currently available. A future systematic review should attempt to locate evidence on a wider body of co-production/joint decision-making interventions and, could include studies relating to potential inequalities in access to and impacts of joint decision-making ventures across population sub-groups.

Primary studies identified (to inform Stage 2 systematic review)

The three reviews included in this Stage 1 scoping review contained eight primary studies that have been set aside for further examination within the Stage 2 systematic review. During screening, we also identified a further 12 documents that cite primary-level evidence of potential relevance to the stage two systematic review. The identification of these studies indicates that the Stage 2 systematic review is feasible. It should attempt to address some of the limitations identified above.

Identification of research/review questions for Stage 2 systematic review

Informed by the findings of this review, particularly regarding the issues of coverage and paucity of current evidence, and to avoid problems from the conflation of concepts (and related interventions), the Stage 2 systematic review will examine evidence from primary studies on the community wellbeing-related impacts of **joint decision-making** in communities. We have defined joint decision-making in communities as:

‘The meaningful involvement of local people in decisions that protect, maintain, or enhance the material and social conditions in which they live.’ (Pennington et al., 2017).

The **Stage 2** systematic review will address the following questions and sub-questions:

- What are the effects (beneficial and adverse) on community wellbeing of interventions to promote joint decision-making in communities?
 - Is there evidence of differential distribution of effects across population sub-groups, including age, socioeconomic status, gender, ethnicity and disability status?
- What conditions/factors determine (enhance or undermine) the effectiveness of interventions to promote joint decision-making in communities, or influence the distribution of impacts across population sub-groups?

Further information on planned approaches for the Stage 2 systematic review can be found here:

<https://tinyurl.com/y7oa8kdd>.

Protocol deviations

We were forced to make a number of deviations from the protocol that could not have been foreseen at the protocol development stage.

1. We intended to identify only the most relevant review-level evidence, and not adopt exhaustive search techniques in this 'rapid' review. Our initial searches, however, only located one relevant review (Voorberg et al., 2015) and we subsequently adopted a more exhaustive, iterative approach to locating evidence (Step 4, described in the Methods, [Identification of evidence](#) section). Additional searching located two extra reviews.
2. We initially intended to screen only 20% of titles and abstracts in duplicate (independently, by two reviewers). In practice, we screened 50% in duplicate.
3. We intended to conduct the review in five months. Additional time spent on searching, consultation and analysis increased this considerably, to over one year.
4. We intended to only synthesise and report the findings from review-level studies. However, as a result of the scarcity of evidence, and limitations in how it was reported in reviews, we were forced to undertake a direct examination of the findings from primary studies within included reviews (to address the issues of conflation of concepts, interventions and findings discussed [above](#)).
5. The limitations in the existing evidence also meant that we were unable to produce either a conceptual pathway of potential mechanisms and pathways between co-production in local decision-making and community wellbeing outcomes, or an evidence map linking findings to each of the ten dimensions of wellbeing.
6. We intended to review crossovers between included reviews and primary studies. This was also prevented by the described limitations in the current evidence-base.

Points 1 to 4 above increased to the rigour of the intended review processes (evidence identification and analysis). Points 5 to 6 were not possible as a result of limitations in the current review-level evidence-base. A Stage 2 systematic review should go some way to address these limitations through additional work to identify and analyse evidence within primary studies.

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Voorberg W, Bekkers V, Tummers L (2015) A Systematic Review of Co-Creation and Co-Production: Embarking on the social innovation journey. Public Management Review. 17(9):1333-1357.

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Appendices

Appendix 1 – Search strategies

Search strategy 1 (MEDLINE example)

MEDLINE, and MEDLINE In process and other non-indexed citations (Via OVID)

1. (co-production or co-design or charrette).ti.
2. (Joint or shared or lay or community) ADJ2 (decision-making or decision making or service design or planning or production).ti.
3. 1 OR 2
4. Limit 3 to years=1990-current and English language

Search strategy 2 (MEDLINE example)

MEDLINE, and MEDLINE In process and other non-indexed citations (Via OVID)

1. ((co-production or co-design or co-creation or coproduction or codesign or cocreation or joint or shared or lay or communit*) adj2 (decision-making or decision making or policy-making or policy making or service design or planning or governance)).ti,ab.
2. (Charrette or citizens jury).ti,ab.
3. 1 or 2
4. (review or synthesis or syntheses or meta).ti,ab.
5. 3 and 4
6. limit 5 to (english language and humans and yr="1980 -Current")

Search strategy 3 (Google example)

Google

(co-production | co-design | co-creation | coproduction | codesign | cocreation | charrette | joint | shared | lay | community) (decision-making | “decision making” | policy-making | “policy making” | “service design” | planning | governance) (review | synthesis | syntheses | meta)

Appendix 2 - Data extraction form

Paper ID	
Author and Year	
Research question/review aim/review objective	
Review inclusion criteria	
Number of primary studies	
Primary study designs	
Population	
Location	
(Intervention)	
Outcomes measured	
Synthesis method	
Findings	
Conclusions	
Recommendations for future research	

Appendix 3 - Quality assessment form

Author/Year/ Paper ID		
Self-reported methodological limitations		
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from http://www.cebm.net/wp-	What question (PICO) did the systematic review address?	
	Is it unlikely that important, relevant studies were missed?	
	Were the criteria used to select articles for inclusion appropriate?	
	Were the included studies sufficiently valid for the type of question asked?	
	Were the results similar from study to study?	
	Are the results presented appropriately?	
Are wellbeing measures/indicators/proxies clear?		
Are co-production measures/indicators/proxies clear?		
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		

Appendix 4 - Studies excluded during full text screening, and reasons for exclusion

Study	Reason for exclusion
Bagnall A-M, Southby K, Mitchell B, South J (2015) Bibliography and map of community-centred interventions for health and wellbeing. Leeds Beckett University: Leeds.	Not a review/synthesis
Bovaird T, Van Ryzin G, Loeffler E, Parrado S (2015) Activating Citizens to Participate in Collective Co-Production of Public Services. Journal of Social Policy. 44:1-23.	No evidence of co-produced decision-making or service design in community
Boyle D, Harris M. (2009). The challenge of co-production. New Economics Foundation: London.	Not a review/synthesis
Brandsen T, Pestoff V (2006) Co-production, the third sector and the delivery of public services. Public Management Review. 8(4):493-501.	No measured community wellbeing outcomes
Brandsen T, Helderman J (2012) The Trade-Off Between Capital and Community: The Conditions for Successful Co-production in Housing. Voluntas. 23:1139-1155.	No measured community wellbeing outcomes
Bayulken B, Huisingsh D (2015) Are lessons from eco-towns helping planners make more effective progress in transforming cities into sustainable urban systems: a literature review (part 2 of 2). Journal of Cleaner Production. 109:152-165.	No measured community wellbeing outcomes
Cederbaum J, Song A, Hsu H, Tucker J, Wenzel S. (2014). Adapting an evidence-based intervention for homeless women: Engaging the community in shared decision-making. Journal of Health Care for the Poor and Underserved. 25:1552-1570.	Not a review/synthesis
Durose C, Mangan C, Needham C, Rees J. (2013). Transforming local public services through co-production. AHRC Connected Communities.	No measured community wellbeing outcomes
Elliott E, Byrne E, Shirani F, Gong Y, Henwood K, Morgan H, et al. (2013). Connected Communities - A review of theories, concepts and interventions relating to community level strengths and their impact on health and well being. Connected Communities: London.	No evidence of co-produced decision-making or service design in community
Haigh F, Scott-Samuel A. (2008). Engaging communities to tackle anti-social behaviour: a health impact assessment of a citizens' jury. Public Health. 122:1191-1198.	Not a review/synthesis
Hibbard M, Lurie S. (2000). Saving land but losing ground - Challenges to community planning in the era of participation. Journal of Planning Education and Research. 20:187-195.	No measured community wellbeing outcomes

Jennings J. (2004). Urban Planning, Community Participation, and the Roxbury Master Plan in Boston. <i>Annals of the American Academy of Political and Social Science</i> . 594:12-33.	Not a review/synthesis
Lamie J, Ball R. (2010). Evaluation of Partnership Working within a Community Planning Context. <i>Local Government Studies</i> . 36:109-127.	Not a review/synthesis
Lasker R, Guidry J. (2009). Engaging the Community in Decision Making: Case Studies Tracking Participation, Voice and Influence. <i>Journal of Planning Education and Research</i> . 30:105-107.	No measured community wellbeing outcomes
Linnell M, Johansson C. (2014). A literature review on community approaches that involve the public in crisis management: Fostering community resilience through coproduction by response organisations and citizens. Mid Sweden University: Sundsvall.	No measured community wellbeing outcomes
Loeffler E, Bovaird T. (2016). User and Community Co-Production of Public Services: What Does the Evidence Tell Us? <i>International Journal of Public Administration</i> . 39:1006-1019.	No measured community wellbeing outcomes
Meijer A. (2012). Co-production in an Information Age: Individual and Community Engagement Supported by New Media. <i>Voluntas</i> . 23:1156-1172.	No evidence of co-produced decision-making or service design in community
Miller W, Pollack C, Williams D. (2011). Healthy homes and communities: putting the pieces together. <i>American Journal of Preventive Medicine</i> . 40:S48-57.	No measured community wellbeing outcomes
Mitlin D. (2008). With and beyond the state - co-production as a route to political influence, power and transformation for grassroots organizations. <i>Environment and Urbanization</i> . 20:339-360.	No measured community wellbeing outcomes
O'Mara-Eves A, Brunton G, McDaid D, Oliver S, Kavanagh J, Jamal F. et al. (2013). Community engagement to reduce inequalities in health: a systematic review, meta-analysis and economic analysis. <i>Public Health Research</i> . 1.	No evidence of co-produced decision-making or service design in community
Osborne S, Radnor Z, Strokosch K. (2016). Co-production and the co-creation of value in public services - A suitable case for treatment? <i>Public Management Review</i> . 18:639-653.	Not empirical/opinion only
Pestoff V, Brandsen T, Verschuere B. (2012). <i>New Public Governance, the Third Sector, and Co-Production</i> . Routledge: London.	No measured community wellbeing outcomes
Pestoff V. (2012). Co-production and Third Sector Social Services in Europe: Some Concepts and Evidence. <i>Voluntas</i> . 23:1102-1118.	Duplicate (revised short version of Pestoff et al., 2012)

Loeffler E, Power G, Bovaird T, Hine-Hughes F. (2013). Co-production in Scotland—a policy update. Governance International: Birmingham.	No evidence of co-produced decision-making or service design in community
Sancino A. (2016). The Meta Co-production of Community Outcomes: Towards a Citizens' Capabilities Approach. <i>Voluntas</i> . 27: 409-424.	No measured community wellbeing outcomes
South J. (2015). A guide to community-centred approaches for health and wellbeing – Briefing. PHE & NHS England: London.	Not a review/synthesis
South J, Stansfield J, Fenton K. (2015). Putting communities at the heart of public health. <i>Perspectives in Public Health</i> . 135:291-293.	Duplicate (Outline of South, 2015)
Street J, Duszynski K, Krawczyk S, Braunack-Mayer A. (2014). The use of citizens' juries in health policy decision-making: a systematic review. <i>Social Science & Medicine</i> . 109:1-9.	No measured community wellbeing outcomes
Sutton S, Kemp S. (2002). Children as partners in neighborhood placemaking: Lessons from intergenerational design charrettes. <i>Journal of Environmental Psychology</i> . 22:171-189.	No measured community wellbeing outcomes
Voorberg W, Bekkers V, Tummers L. (2013). Co-creation and co-production in social innovation: A systematic review and future research agenda. In: <i>Proceedings of the EGPA Conference</i> . pp.11-13.	Duplicate. Earlier (conference) version of Voorberg (2015)
Wheeland C M. (2003). Implementing a community-wide strategic plan - Rock Hill's Empowering the Vision 10 years later. <i>American Review of Public Administration</i> . 33:46-69.	No evidence of co-produced decision-making or service design in community
Wilkie S, Michialino P. (2014). The influence of participative co-production use for urban public-space regeneration on residents' perceptions of life satisfaction and social cohesion. <i>Journal of Architectural and Planning Research</i> . 31:271-281.	Not a review/synthesis
Williams B, Kang S, Johnson J. (2016). (co)contamination as the dark side of co-production Public value failures in co-production processes. <i>Public Management Review</i> . 18:692-717.	No evidence of co-produced decision-making or service design in community
<ul style="list-style-type: none"> • No evidence of co-produced decision-making or service design in community n=7 • No measured community wellbeing outcomes n=14 • Not a review/synthesis n=8 • Not empirical/opinion only n=1 • Duplicate n=3 • Total exclude papers (at full text screening stage) n=33 	