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Community-centred public health – interviews with local leaders to understand the steps needed to scale up whole-system approaches.

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Abstract

Objectives

The aim of the study was to identify the elements of whole-system approaches to building healthy communities and putting communities at the heart of public health in order to reduce health inequalities.

Design

The primary method was semi-structured interviews public health leaders from 12 local areas. This was supplemented by a desk-based review of literature, a survey of members of the public via PHE's people panel and a roundtable discussion with stakeholders.

Setting

Local authorities in England.

Results

Eleven elements of community-centred public health practice that constitute taking a whole-system approach were identified. These were grouped into the headings of scaling, involving, strengthening and sustaining. The elements were underpinned by a set of values and principles.

Conclusions

Local public health leaders are in a strong position to develop a whole-system approach to reduce health inequalities that puts communities at the heart. The elements, values and principles summarise what and how to do this that could be further tested with other localities as a framework for scaling community-centred public health.

Article summary

Strengths and limitations of this study

- It supports current policy interest and literature to reduce widening health inequalities through greater community engagement.
- There was high participation in all methods of the study; responses from all invited interviewees and 74% of the public contacted (n=342).
- The Framework Method of analysis was used effectively to distil key findings from multiple themes generated from qualitative data.
- The findings could be strengthened by conducting more interviews with Directors of Public Health and with other sector leaders who are increasingly taking responsibility for reducing health inequalities. There is potential for a further comparative implementation study.

Introduction

This study was part of a project to improve and increase local whole-system approaches to community-centred public health in Public Health England (PHE). It built on previous work to increase access to evidence and knowledge mobilisation in community-centred approaches [1] [2] [3]. It was developed in direct response to stakeholder requests for more information and support to scale up whole-system approaches to shift community-centred ways of working from the margins to core public health practice. This paper describes the findings from research into local authority areas that are already making that shift and summarises the elements, values and principles of a whole-system approach to community-centred public health.

While health inequalities in England continue to worsen [4], it is timely to move on from traditional interventions that have not been working and scale up those approaches where evidence shows they are effective [5]. With public health teams now firmly established within the English local government system since 2013, those teams are well placed to make this happen [6]. Community-centred approaches aim to reduce health inequalities through addressing marginalisation and powerlessness and creating more sustainable and effective interventions for and with those most in need [7, 5]. They differ from community-based interventions where target populations are the recipients of professionally-led activities [1]. Many of the psychosocial factors and pathways that link wider conditions with health behaviours and outcomes exist at the community level and are addressed through community-centred approaches [8]. In the English public health system despite good evidence, long-standing practice and NICE guidance that endorses community-centred approaches [9], there has been a dominance of interventions that focus on individual-level lifestyle rather than community-level determinants [1, 10]. Long-standing practice in community-centred approaches has been evident in most local authority areas but not at a reach and depth to affect persistent inequalities.

Over recent years, there has been increasing interest in applying ideas around complexity and systems thinking to public health and to care systems [11] [12]. Public Health England has begun to explore how whole-system approaches can be used to improve health and

reduce inequalities, with a focus on obesity [13]. The definition of whole-system approach is that it "responds to complexity through an ongoing, dynamic and flexible way of working. It enables local stakeholders, including communities, to come together, share an understanding of the reality of the challenge, consider how the local system is operating and where there are the greatest opportunities for change. Stakeholders agree actions and decide as a network how to work together in an integrated way to bring about sustainable, long term systems change" (P.17) [14].

Working in PHE's Healthy Communities, we have built on this work to put communities at the heart of public health policy and practice. This is an ambition shared outside of England [15] such as the community-centred health model advocated and scaled by the Prevention Institute in USA that recognises that community conditions are critical to health and community prevention strategies lead to lasting change and foster health equity [16]. Health-in-all-policies [17] and place-based-working [18] are other systems approaches that align to a community-centred approach.

Aim and objectives

The aim of the study was to identify the elements for scaling whole-system community-centred public health at a local authority level in England. The objectives were:

i. To collate learning from local areas currently demonstrating leadership and best practice in reducing health inequalities through community-centred public health.
ii. To engage stakeholders, including community members, in exploring and developing concepts, principles and steps to achieve scale and sustainability in community-centred public health.

Methods

The scope of the study focused on public health practice to reduce health inequalities, which was led by local public health systems. A project steering group provided oversight to the study and met at the beginning, middle and end to review methods and progress. It included staff from different parts of the organisation working on health inequalities, health improvement, whole-system approaches, local authority delivery support, public engagement and voluntary and community sector (VCS) engagement plus an external adviser who acted as a critical friend. Other external stakeholders were consulted with on an ad-hoc basis and as part of a stakeholder discussion (see below). Ethical approval was submitted to the organisation but was not required for this study.

Patient and public involvement: No patient involved

The primary method was:

Semi-structured interviews with public health leaders from 12 local areas (key informant interviews). Between one and three representatives per area participated in a 60-90-minute interview about their local practice. From a sample of 151 upper-tier local authority areas a long-list was generated of 29 who were demonstrating (1) strategic approaches, (2) cross-

sector working, (3) leadership and (4) high-quality activity in community-centred approaches to reducing health inequalities. The list came from existing sources: PHE's nine Centres and their networks with local authorities, examples from practice written up for PHE's online library (https://phelibrary.koha-ptfs.co.uk/practice-examples/caba/) and the Local Government Association case studies (https://www.local.gov.uk/case-studies). The secondary criteria applied to the long-list included achieving (1) geographical spread across the country, (2) diversity in approach and (3) demonstrable outcomes representing maturity of approach. This reduced the list to 12 areas who were approached for interview by email.

Four interviews were with Directors of Public Health, six areas were with Consultants in Public Health or programme managers/ heads within the local authority, one was a CEO of a voluntary organisation who had been commissioned to provide strategic leadership and one interview was with a university who were leading a collaborative project across several local authorities. Some of the interviewees had been involved in previous project work with PHE. Interviews were conducted by phone by either JSt or JSo, using an agreed schedule. Detailed notes were taken and then offered to interviewees for validation.

See Box 1 for lines of inquiry. Supplementary sources of evidence included:

A desk-based review of literature: Three groups of literature were explored:

- International studies reporting on community engagement drawn from a recent systematic review on whole-system approaches to public health [15].
- Additional publications focused specifically on whole-system community-centred public health, identified by a search conducted by PHE Knowledge & Library Services.
- Key whole system frameworks and UK reports that are being used in English public health system.

A survey of members of the public: An online survey to PHE's people's panel of 460 members of the public recruited from an annual Ipsos Mori door-to-door public health survey. There were four demographic variables and five open questions. (see xxx) The first two questions helped to familiarise respondents with the issue. The survey was answered by 74% of the panel (n=342).

Stakeholder roundtable discussion: The findings from the three sources were tested with a group of 23 stakeholders at a round-table discussion. Stakeholders included the local area interviewees (n=8), representatives and experts from national bodies in the VCSE, health and social care sectors (n=10) and representatives from PHE programmes and areas of expertise (n=5). The first round of discussion involved the researchers presenting the findings and opening discussion on themes. The second round started with 4-5 participants giving formal and informal commentaries to provide different sector perspectives and stimulate thinking on the overall theme of whole-system approaches to community-centred public health. A chairperson summarised key issues during and after each round. Discussion points were captured by two note-takers.

Box 1. Lines of inquiry:

i. the definition and scope of whole-system within this context;

ii. the enabling conditions and prerequisites to community-centred public health, along with the barriers and detractors to progress;
iii. the principles and components of whole-system community-centred public health;
iv. the value, advantages and disadvantages, of adopting whole-system community-centred public health.
v. the alignment of community-centred public health within local system priorities.
vi. the key actions that local leaders can take to create a community-centred public health system.

Analysis

Themes were developed iteratively, building from the interviews and corroborated by the literature and public survey.

A thematic analysis of the interview data was undertaken using the Framework Method [19] [20]. This method develops an analytical framework that structures data into categories to help summarise and reduce it and produce themes. A framework was developed based on six categories from the questions (local context, description of whole-system community-centred approach, principles and components, outcomes, learning, transferable knowledge). Data from the first four interviews (cases) were summarised under each category and common concepts or themes (appearing more than once) were given a label (code). Data excerpts from the remaining cases were added into the framework and labelled with the codes or assigned a new one if a new concept or theme emerged. All the data were then re-checked to ensure that all common concepts were coded and had a distinct label. Themes were grouped into categories.

Of the 65 papers included in the systematic review [13], 10 papers reported links between effective community engagement and the success of the intervention. Further data extraction and synthesis was undertaken on these papers to identify community engagement models and methods, barriers and facilitators and alignment to the public health system and goals. Following a search conducted by PHE Knowledge and Libraries and then screening, an additional 14 papers were included in the review and synthesis. These were from US (9), Canada (2), Australia (2) and New Zealand (1).

Data from the public survey were analysed by developing and using coding frameworks to produce salient thematic issues. The detail of these findings is reported elsewhere [21].

The themes from the literature review and public survey were added into the framework against the existing labels, adding strength or emphasis and forming the final themes [20] [19]. There were 26 themes that emerged from the analysis. These were grouped into describing the context and starting points for the work, the elements that describe what was delivered to achieve a whole-system approach to community-centred public health, the principles that underpin how to achieve this and the suggested steps for those starting out on this journey (Table 1).

[Table 1. **Thematic framework]**

Context:	**Elements of approach – what was delivered:**	**Process for delivery - how:**	**Enablers of whole-system approach:**	**Challenges:**
Health inequalities not reducing and the need for a **radical approach** or redesign across the system.	Community-centred prevention approaches as part of **integrated** commissioning alongside community-oriented services with NHS, Social care, VCS	Informed by in-depth **insight** (research) with communities	Having a strong case for change and overarching **strategic ambition** for the council and partners	The impact of cuts and **austerity** and importance of financial inclusion.
The need to **reduce demand** on services.	Building Voluntary and Community Sector (**VCS) capacity** and valuing VCS contribution, including volunteering.	A comprehensive **outcomes framework** that includes community determined outcomes and system indicators that demonstrate short, medium and long-term outcomes at system/ individual/ community levels through quantitative and qualitative data.	**Leadership** by the CEO and Director of Public Health - supported by strong belief or experience in community approaches.	The default position of traditional service provision, that requires **shifting mindsets**.

	Strengthening **communities' capacity** through community development approaches.	Neighbourhood level working that is **hyper-local** (walking distance). Place-based working linked to other agendas.	Centrality of **elected members** as community-centred enablers of change.	**Balancing** the differing goals of communities and services. Not losing sight of the importance of bottom-up community outcomes and sticking to these as key determinants/ protective factors for health.
	Community **engagement and coproduction** - a new conversation (between public and agencies) and participative decision-making structures.	A high level shared **narrative** and commitment across all partners.	Access to **finances** - either start-up funding or through de-commissioning.	
	Action to address the **social determinants** of health within the locality e.g. housing, employment, income/ debt, healthy place/ environment.	Recognition that a **long-term approach** is needed, supported by some initial freedom and flexibility to develop a community-informed approach.	A strategic level **partnership** across sectors demonstrating collective bravery and risk-taking.	

	Workforce development building core skills and knowledge in community-centred approaches.	**Embedding** community-centred approaches into all public health priorities and programmes. And an embedded approach to public health in all council depts. and other partnership e.g. Clinical Commissioning Group.	**Building on a history** of active communities and community assets, including strong relationships and high levels of trust between communities and partners.	
	Community asset transfer that is timely and supported to meet community needs	**Values-driven** by community empowerment and trusting relationships.	**Social Value** commissioning	

Findings

The findings on the elements, principles and values for whole-system community-centred public health are summarised in Fig 1. In terms of findings on context, interviewees described two main starting points for this work. Firstly, that health inequalities were getting worse within local areas and leaders had consequently agreed that a radical approach was needed, aligned to redesign of services across the system. There was a recognition that what was traditionally provided was not working. Secondly, interviewees reported the need to reduce demand on services due to diminishing resources and growing population need. An important context emerging from each evidence source was austerity and the effect on people's health, community strengths and vitality and the impact of cuts to the services that were previously addressing these.

Fig 1. Whole-system approach to community-centred public health. (Source: Public Health England)

[Fig 1]

Elements of a whole system approach

Eleven elements, which were identified through analysis and are labelled (i) through to (xi), describe what needs to be delivered to achieve a whole-system approach to community-centred public health – the core actions. These are grouped into four major themes – scaling practice, involving communities, strengthening capacity & capability and sustaining outcomes. (see Figure 1).

Scaling practice: Firstly, the scaling up of a range of community-centred prevention services and approaches as part of integrated commissioning between public health, social care and the NHS (i). Approaches commonly cited were social prescribing, integrated wellness services and community development, but these were aligned as part of a whole-system way of working:

"*We've had a history of lots of initiatives that were community-oriented but we've brought them together to make it whole-system as part of transformational, co-productive, large-scale change."* (Interviewee 3)

"social prescribing as a system not an access route" (Interviewee 11)

This often required a shift in investment as part of a redesign. Scale related to systematising approaches rather than applying a standard model everywhere. Scale at a 'hyper-local' place level was important, through neighbourhood-based working and resources (ii) - described as operating at walking distance for participants rather than on larger organisational footprints. The literature supports a focus on place with attention to cultural issues and addressing health inequalities [29] [31] [22] [23].

Involving communities: undertaking research with communities (especially the seldom heard) to gain insight from qualitative data to provide a rich understanding of people's lives, public health needs and priorities (iii), often gathered by community researchers and were the starting point for service or system redesign through providing compelling stories of people's health and wellbeing. The literature also found community involvement in research was an effective element [24] [25] [26] .

The existence of active communities was a key element of the local system, enabled where needed by community development, social action and supporting grass-root approaches and community asset transfer (iv).

Participation infrastructures are vital for ongoing engagement, coproduction and participative decision-making, such as neighbourhood forums that bring agencies and community members together for developing joint action and long-term trusting relationships between and within communities, professionals and organisations (v). The value of community coalitions to agree priorities and deliver local action plans was a strong theme in the literature see for example [27] [28] [29][24].

Strengthening capacity and capability included valuing the contribution of, and actively building the capacity of, the voluntary and community sector, through market development,

facilitating collaboration and supporting volunteering (vi). The literature review also found a capacity building approach was effective, working with local community organisations and volunteers and community leaders [27] [25] [28] [29].
Workforce capability involved building the knowledge and skills of staff to create connected and empowered communities through community-centred ways of working (vii) and embedding community-centred approaches into all public health, prevention and public service reform (viii). This included using levers such as commissioning for social value. One participant described:

"taking a public health department approach so community-centred practice is part of everything we do" (Interviewee 11)

The literature specifically highlighted the tailoring of health education campaigns to community context and marginalised groups [30] [27].

Sustaining outcomes: A whole-system approach was sustained through having a strategic and long-term ambition for strengthening communities that was shared and communicated between agencies and communities (ix). This included social movement approaches and ways of forming new relationships between public sectors and the public. It also refers to aligning different agencies' agendas where strengthening communities is central to their goals. The long-term nature of this work was recommended by all:

"Don't underestimate the time needed. Without this there is a tendency to revert to a service response rather than a change response" (Interviewee 8).

This was strengthened by the literature review that found developing a shared vision, community ownership and mobilisation as effective elements [31] [27] [32] [33].

Insight informed a comprehensive outcomes framework based on the things that mattered to communities in the long term as well as short and medium-term indicators of community-level determinants of health such as resilient, connected and empowered communities (iv). Relevant indicators were not always seen as included within current measurement or monitoring systems:

"*the PHOF [Public Health Outcomes Framework] is too disease focussed, not social capital. We need new measures of quality of life, not smoking anymore*." (Interviewee 1).

"*It was difficult to set outcomes at the beginning as there was a tension between community interests and programme auditing*" (Interviewee 12)

An essential element to the whole-system approach was action to address the social determinants of health, such as housing, poverty, employment, environment, crime and safety (x). These can be structural barriers or prerequisites for community resilience, participation and empowerment:

"we need to change the environment at the same time – regeneration of place alongside regeneration of communities" (Interviewee 1).

Addressing the social determinants was a priority from our public consultation [21] as well as the literature [16] [22] [32].

Values and principles

Power ran throughout many of the 11 elements and, alongside trust and relationships, has been summarised as a key value (Fig 1). It was also supported by the literature [29] [31] [26] [30] and the supplementary evidence sources:

"the power of a grass roots driven strategy should not be considered 'a challenge to authority' but as a way to develop shared ownership of progress towards self-determined goals" (People's survey finding).

"there is often a reluctance to talk about where power lies, and this can only be done at a whole-system level" (roundtable discussion).

The actions were underpinned by five principles for whole-system working. (Box 1) These were commonly referred to as shifting from the traditional way of working. One interviewee referred to:

"going back to public health roots of community health development - we had been working at the wrong end" (Interviewee 1).

Another interviewee referred to the:

"need to understand and focus on the protective factors, recovery assets and resilience, not more on the risk factors, in order to understand what makes some people well whilst others living with the same levels of risk are ill." (Interviewee 10).

Box 1: Principles for achieving a whole-system approach to community-centred public health.

1. Bold **leadership** to shift from traditional to radical approaches in order to reduce health inequalities. Leading an approach that is strategic, large-scale and creates transformational change.
2. **Shifting mindsets** and redesigning the system aligned to building healthy, resilient, active and inclusive communities.
3. **Collective bravery** for risk-taking action and a strong **partnership** approach across local government tiers, council depts, communities, NHS and the VCSE sector that gives attention to power and building trusting relationships with communities.
4. **Coproduction** of solutions and different ways of working with communities e.g. social movements
5. Recognising **complexity** of the protective and risk factors at a community-level that affect people's health and how these interact with the wider determinants of health

Table 2. provides examples of how the elements and values are demonstrated in practice.

Table 2. Examples of how the elements and values of whole-system approaches to community-centred public health are demonstrated in practice.

Element	Examples from practice
Scaling	North Yorkshire re-designed their prevention service in partnership with the VCSE sector, social care and primary care. It is now a more holistic community-oriented service, linking prevention to social work and living well coordinators in GP practices.
	Tower Hamlets 'communities driving change' initiative is whole-system working at the neighbourhood level, working with twelve small neighbourhoods (estates) and their residents to improve the availability of good and better things, resulting in more community-oriented local services and better addressing social determinants.
Involving	Dudley Council's community resilience journey started with gathering community stories for six months. This has shaped their whole-system approach, including their strategic priorities and outcomes, social value measures and service commissioning frameworks.
	Wellbeing Exeter is robust partnership of public, voluntary and community sector organisations working together, programme managed by Devon Community Foundation. It aims to support people on a journey from dependence on services, to increased involvement and interdependence within better connected, inclusive and more resilient communities.
	Get Oldham Growing is a community engagement programme focused on improving social connections and action on the wider determinants of health. The aim is that 'growing hubs' in all six districts will be sustainable and community run, and this has already started through community interest companies and asset transfers.
Strengthening	Small grass roots organisations in Bracknell Forest are given support to grow through seed funding, marketing and advice on diversity and inclusion. Public health staff have started working closely with community-led groups and doing community development in order to address social connectedness as an underlying cause of poor health.
	Hull's whole-system community-centred approaches grew from initial ward-based work on smoking cessation to being central to their whole-public health approach, delivered through community-centred public health commissioning, strengthening of the VCSE sector role and strategic alignment across the system, e.g. a refreshed city plan committed to addressing inequality by achieving fair, inclusive economic growth.
	In Blackburn with Darwen, reductions in access to social support underpin widening health inequalities. Their approach was to build distributed leadership for public health across all departments, sectors and organisations, including neighbourhood-based working and building a social movement approach to public support and social action for change.
Sustaining	A priority in East Sussex to develop a whole-system approach to community resilience has led to partners working together on a place-based 'personal and community resilience programme' with nine shared

	objectives. An evaluation framework includes short, medium and long term outcomes and indicators. Sustainability is beign achieved through re-orienting the system to asset-based approaches, e.g. through integrated and collaborative commissioning, a hub and spoke multi-sector neighbourhood engagement structure, a community grants scheme and a social value framework.
	Wirral is working to make everything more community-centred. Community connectors address the social determinants of health and residents are at the centre of work around the environment, licensing, housing conditions, environmental health and education, through a Wirral Together partnership. Efforts to improve the physical environments are happening at the same time as strengthening communities; "regeneration of place alongside regeneration of communities".
Values	Understanding power and empowerment is core to the Gateshead approach, as this is critical to reducing inequalities. Often, disadvantaged groups lack both a voice and confidence because they have been disempowered by the systems around them. Gateshead's approach is to support people in the knowledge that they have a voice and a right to be listened to. Professional practice is shifting to a bottom-up approach, working with communities through community development approaches and ensuring that the resulting public health activity is owned by communities.

Discussion

"I've never found a single public health issue more powerful than community development to enable a system-wide approach" (Director of Public Health, Interviewee 2)

To reduce widening health inequalities, communities need to be at the heart of public health practice. Those who were interviewed recognised the need for a whole-system approach and that they were actively working towards this. What they were doing and how is summarised in the eleven elements, three values and five principles (fig 1). The need to scale whole-system approaches where communities are central to public health has been recognised elsewhere [16] [14] [34]. Research in England has found fragmented local systems [35] despite a pressing need to reshape service delivery through close partnership working with local organisations. Furthermore, people and communities experience outcomes that are influenced by the whole-system around them [36]. That such need requires a radical approach is also recognised [36] [37]. Research in Chicago turned the problem around: from asking how community organisations could be more involved in system approaches to population health, to concluding that health systems should be asking how they can be more involved in community-based approaches already underway [38].

The depth of practice across the sites suggest that whole-system working to build healthy communities is feasible and possible for wider adoption within other public health systems.

Most interviewees were able to report outcomes and there was a range of approaches used or planned by all to evaluate impact. The elements that were strongest in all our evidence sources were the need to co-produce, identify needs and share decision-making with communities.

A focus on cultural issues was found in the literature [39] [27] [25] but not highlighted in our findings, although could be understood by the need to work at a 'hyper-local' neighbourhood level (element ii). Approaches that address gender or race discrimination in North American contexts were effective in strengthening community networks and coalitions [30] [26], which we did not explore. Community based participatory research (CBPR) was also not as well developed in our English examples as in the international literature. Both CBPR and a whole system focus on discrimination could present areas for development.

At the roundtable discussion the value of describing the work as 'whole-system' or 'scaling' was debated. Many of the elements could be seen as already part of a community-centred approach [2]. The adoption of whole-system approaches to address public health priorities is a growing area of research and practice [15]. This study contributes an understanding of how to develop a community-centred approach to health and wellbeing.

Whilst the research focussed on whole-system the interviews were limited to public health departments. Further research with leaders from other sectors that are increasingly leading population health and prevention could strengthen the place-based approach.

Conclusion and recommendations

Local public health leaders are in a strong position to develop a whole-system approach to reduce health inequalities that puts communities at the heart. The findings summarise current practice and provide a practical guide to taking a whole-system approach to community-centred public health. Whilst this is developed within North American literature, there is little UK research in this area.

The elements, values and principles (fig. 1) could be applied by local areas to (1) improve the effectiveness and sustainability of action to build healthy communities, or (2) embed community-centred ways of working within whole-systems action to improve population health. The findings could be tested as a framework for taking a whole-approach to community-centred public health.

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Author contributions

JSt and JSo designed the study, conducted interviews and discussed and finalised the paper. JSt undertook the interview analysis and produced the first draft of the findings and paper; JSo reviewed the literature and supported the public survey data analysis. TM arranged the interviews, roundtable discussion and reviewed the findings and final paper.

The authors had no competing interests.

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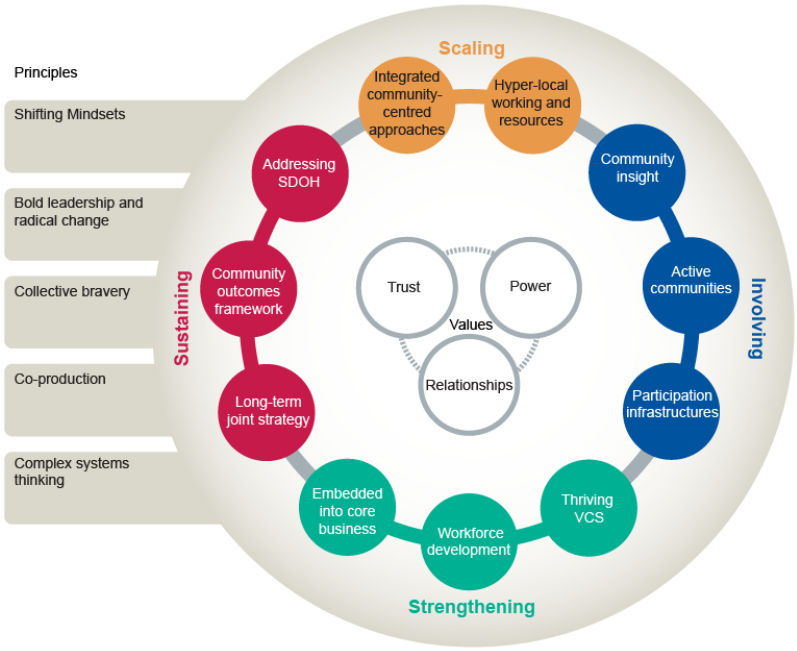
Principles
Shifting Mindsets
Bold leadership and radical change
Collective bravery
Co-production
Complex systems thinking
Scaling
Integrated community-centred approaches
Hyper-local working and resources
Involving
Community insight
Active communities
Participation infrastructures
Strengthening
Thriving VCS
Workforce development
Embedded into core business
Sustaining
Long-term joint strategy
Community outcomes framework
Addressing SDOH
Trust
Power
Values
Relationships

Reporting checklist for qualitative study.

Based on the SRQR guidelines.

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Title		
#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	1

Abstract			
	#2	Summary of the key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results and conclusions	1
Introduction			
Problem formulation	#3	Description and signifcance of the problem / phenomenon studied: review of relevant theory and empirical work; problem statement	2
Purpose or research question	#4	Purpose of the study and specific objectives or questions	3
Methods			
Qualitative approach and research paradigm	#5	Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenolgy, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist / interpretivist) is also recommended; rationale. The rationale should briefly discuss the justification for choosing that theory, approach, method or technique rather than other options available; the assumptions and limitations implicit in those choices and how those choices influence study conclusions and transferability.	3

		As appropriate the rationale for several items might be discussed together.	
Researcher characteristics and reflexivity	#6	Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results and / or transferability	4
Context	#7	Setting / site and salient contextual factors; rationale	3-4
Sampling strategy	#8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	3-4
Ethical issues pertaining to human subjects	#9	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	3
Data collection methods	#10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and modification of procedures in response to evolving study findings; rationale	3-4

Data collection instruments and technologies	#11	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	3-4
Units of study	#12	Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	3-4
Data processing	#13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	5
Data analysis	#14	Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	5
Techniques to enhance trustworthiness	#15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	5
Results/findings			
Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	8-12

Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	8-12
Discussion			
Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	14
Limitations	#19	Trustworthiness and limitations of findings	14
Other			
Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	2
Funding	#21	Sources of funding and other support; role of funders in data collection, interpretation and reporting	2

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What are the elements of a whole system approach to community-centred public health?: a qualitative study with public health leaders in England's local authority areas.

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What are the elements of a whole system approach to community-centred public health?: a qualitative study with public health leaders in England's local authority areas.

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Tom Mapplethorpe, Public Health England, London, UK.

Keywords: public health, health inequalities, community, whole system

Word count: 3,510

Abstract

Objectives

The aim of the study was to identify key elements of whole system approaches to building healthy communities and putting communities at the heart of public health in order to reduce health inequalities.

Design

A mixed-method qualitative study was undertaken. The primary method was semi-structured interviews with 17 public health leaders from 12 local areas. This was supplemented by a rapid review of literature, a survey of 342 members of the public via Public Health England's (PHE) People's Panel and a roundtable discussion with 23 stakeholders.

Setting

Local government in England.

Results

Eleven elements of community-centred public health practice that constitute taking a whole system approach were identified. These were grouped into the headings of involving, strengthening, scaling and sustaining. The elements were underpinned by a set of values and principles.

Conclusions

Local public health leaders are in a strong position to develop a whole system approach to reducing health inequalities that puts communities at its heart. The elements, values and principles summarise what and how to do this in a way that could be further tested with other localities as a framework for scaling community-centred public health.

Article summary

Strengths and limitations of this study

- It supports current policy interest and literature in reducing widening health inequalities through greater community engagement.
- There was high participation in all methods used in the study; responses from all invited interviewees and 74% of the public contacted (n=342).
- The Framework Method of analysis was used effectively to distil key findings from multiple themes generated by qualitative data.
- The findings could be strengthened by conducting more interviews with Directors of Public Health, with other sector leaders who are increasingly taking responsibility for reducing health inequalities and with community members. There is potential for a further comparative implementation study.

Introduction

This study was part of a project to improve and increase the uptake of local whole system approaches to community-centred public health in Public Health England (PHE). It built on previous work to increase access to and implementation of evidence in community-centred approaches [1] [2] [3]. It was developed in direct response to stakeholder requests for more information and support to scale up whole system approaches to shift community-centred ways of working from the margins to core public health practice. This paper describes the findings from research into local government areas (local authorities) that are already making this shift and summarises the elements, values and principles of a whole system approach to community-centred public health.

Health inequalities in England continue to worsen [4] [5] and it is necessary to move on from traditional interventions that have not been working and scale up those approaches which evidence has shown to be effective [5] [6]. Public health teams have been firmly established within the English local government system since 2013 and these teams are well placed to make this happen [7]. However, local authority capacity and resources have declined in recent years and deprived communities have borne the brunt of funding cuts and experienced rising need and inequalities [5].

Community-centred approaches aim to reduce health inequalities through addressing marginalisation and powerlessness and by creating more sustainable and effective interventions for and with those most in need [8] [9] [10]. Empowerment, equity and social connectedness are recognised as three central concepts of evidence-based practice [1]. Community-centred approaches differ from community-based interventions that merely engage 'target' populations as recipients of professionally-led activities [1]. Many of the psychosocial factors and pathways that link wider conditions with health behaviours and outcomes exist at the community level and are addressed through community-centred approaches [2] [11] [12].

In the English public health system despite good evidence, long-standing practice and clinical guidance that endorses community-centred approaches [13], there has been a dominance of interventions that focus on individual-level lifestyle behaviours rather than community-level determinants such as social connectedness, sense of belonging and participation in decision-making [1, 6]. Long-standing practice in community-centred approaches has been evident in most local authority areas but not at a reach and depth to affect persistent inequalities. Indeed, such approaches also have potential to further alienate or damage communities if reducing and challenging inequalities is not central to the approach or they ignore systemic inequities [14] [15] [16]. Box 1 outlines the principles of community-centred approaches, developed from evidence. [1] [2]

Box 1 Principles of community-centred approaches

Community-centred approaches are those that:

- Promote health and wellbeing or reduce health inequalities in a community setting, using non-clinical methods.
- Use participatory methods where community members are actively involved in design, delivery and evaluation.
- Measures are in place to address barriers to engagement and enable people to play an active part.
- Utilise and build on local community assets in developing and delivering the project.
- Develop collaborations and partnerships with individuals and groups at most risk of poor health.
- There is a focus on changing the conditions that drive poor health alongside individual factors.
- Aim to increase people's control over their health and lives.

Over recent years there has been increasing interest in applying ideas around complexity and systems thinking to public health and to care systems [6] [17] [18]. Public Health England has begun to explore how whole system approaches can be used to improve health and reduce inequalities, with a focus on obesity [19] [20] but community involvement elements are often under-developed or focus on engagement rather than coproduction. A whole system approach is defined as "responding to complexity" through a "dynamic way of working", bringing stakeholders, including communities, together to develop "a shared understanding of the challenge" and integrate action to bring about sustainable, long term systems change (P.17) [21]. Complex system thinking in public health can help understand and address the links between distal and proximal determinants, including intermediary factors such as community-level determinants.

PHE's Healthy Communities Team is seeking to build on this work, moving beyond commissioning community-centred approaches, to putting communities and community empowerment at the heart of all public health policy and practice and understanding how this can be scaled to a level that impacts on health inequalities [22]. This is an ambition shared outside of England [19], such as in the community-centred health model advocated and scaled by the Prevention Institute in USA that recognises that community conditions are

critical to health and community prevention strategies lead to lasting change and foster health equity [23]. Whilst England lacks similar scaled community-centred models, health-in-all-policies [24] and place-based-working [25] are other systems approaches that align to a community-centred approach and offer impact at scale

Aim and objectives

The aim of the study was to identify key elements of whole system community-centred public health at a local authority level in England. It sought to build on the elements of community-centred approaches (Box 1) by understanding how the public health system could become more community-centred and enable community connectedness and empowerment to be central to its role and functions [22].

The objectives were:

i. To collate learning from local areas currently demonstrating leadership and best practice in reducing health inequalities through community-centred public health.
ii. To engage stakeholders, including community members, in exploring and developing concepts, principles and steps to achieve scale and sustainability in community-centred public health.

Methods

The scope of the study focused on public health practice to reduce health inequalities, which is led by local public health systems. A mixed method study qualitative design was used to explore aspects of public health practice, taking account of different local contexts [26], and to develop pragmatic guidance for local systems. The design was informed by arguments for use of a systems approach to population health [27] and for application of systems thinking in public health research [18]. This informed the focus at local authority level and the mixed method design drawing in a range of stakeholder perspectives. A project steering group provided oversight to the study and met at the beginning, middle and end to review methods and progress. It included staff from different parts of the organisation working on health inequalities, health improvement, whole system approaches, local authority delivery support, public engagement and voluntary and community sector (VCS) engagement, with the addition of an external adviser who acted as a critical friend. Other external stakeholders were consulted with on an ad-hoc basis and as part of a stakeholder discussion (see below). Ethical approval was submitted to the organisation but was not required for this study.

Patient and public involvement: No patient involved

The primary method was:

Semi-structured interviews with public health leaders from 12 local areas (key informant interviews). Between one and three representatives per area participated in a 60-90-minute interview about their local practice. From a sample of 151 upper-tier local authority areas (who had public health responsibilities) a long-list was generated of 29 who were

demonstrating (1) strategic approaches, (2) cross-sector working, (3) leadership and (4) high-quality activity in community-centred approaches to reducing health inequalities. The list came from existing sources: PHE's nine local centres across England and their networks with local authorities, examples from practice written up for PHE's online library (https://phelibrary.koha-ptfs.co.uk/practice-examples/caba/) and Local Government Association case studies (https://www.local.gov.uk/case-studies). The secondary criteria applied to the long-list included achieving (1) geographical spread across the country, (2) diversity in approach and (3) demonstrable outcomes representing maturity of approach. This reduced the list to 12 areas who were approached for interview by email.

Four interviews were with Directors of Public Health, six were with Consultants in Public Health or programme managers within the local authority, one was with a Chief Officer of a voluntary organisation who had been commissioned to provide strategic leadership and one interview was with a university who were leading a collaborative project across several local authorities. Some of the interviewees had been involved in previous project work with PHE. Interviews were conducted by phone by either JSt or JSo, using an agreed schedule. Detailed notes were taken and then offered to interviewees for validation.

See Box 2 for lines of inquiry. Supplementary sources of evidence included:

A rapid review of literature [28] was undertaken to gather published evidence that reported on whole system approaches in public health practice in order to supplement the primary data. Three groups of literature were explored:

- International studies reporting on community engagement drawn from a recent systematic review on whole system approaches to public health [19].
- Additional publications focused specifically on whole system community-centred public health, identified by a search conducted by PHE Knowledge & Library Services.
- Key whole system frameworks and UK reports that are being used in the English public health system. [29]

A survey of members of the public: An online survey to PHE's People's Panel, which is comprised of 460 members of the public recruited from annual randomised household door-to-door public health market research. There were four demographic variables and five open questions. (see supplementary file A) The first two questions helped to familiarise respondents with the issue. The survey was answered by 74% of the panel (n=342). More details on the sample in Table 1.

Table 1. People's panel survey sample profile

		Frequency	Percent
Sex	Male	101	29.5
	Female	241	70.5
Age	16-24	1	0.3
	25-34	14	4.1
	35-44	34	9.9
	45-54	58	17

	55-64	103	30.1
	65+	125	36.5
	Missing	7	2
Ethnic origin	Asian or Asian British	12	3.5
	Black or Black British	7	2
	Mixed	3	0.9
	White British	292	85.4
	White Other	21	6.1
	Other	1	0.3
	Missing	6	1.8
Region	East Midlands	21	6.1
	East of England	20	5.8
	London	23	6.7
	North East	37	10.8
	North West	71	20.8
	South East	64	18.7
	South West	25	7.3
	West Midlands	21	6.1
	Yorkshire and Humber	56	16.4
	Missing	4	1.2

Stakeholder roundtable discussion: The findings from the three sources were tested with a group of 23 stakeholders at a round-table discussion. Stakeholders included the local area interviewees (n=8), representatives and experts from national bodies in the VCSE, health and social care sectors (n=10) and representatives from PHE programmes and areas of expertise (n=5). The first round of discussion involved the researchers presenting the findings and opening discussion on themes. The second round started with 4-5 participants giving formal and informal commentaries to provide different sector perspectives and stimulate thinking on the overall theme of whole system approaches to community-centred public health. A chairperson summarised key issues during and after each round. Discussion points were captured by two note-takers.

Box 2. Lines of inquiry:

i. the definition and scope of whole system within this context;
ii. the enabling conditions and prerequisites to community-centred public health, along with the barriers and detractors to progress;
iii. the principles and components of whole system community-centred public health;
iv. the value, advantages and disadvantages, of adopting whole system community-centred public health.
v. the alignment of community-centred public health within local system priorities.

vi. the key actions that local leaders can take to create a community-centred public health system.

Analysis

Themes were developed iteratively, building from the interviews and corroborated by the literature and public survey.

A thematic analysis of the interview data was undertaken using the Framework Method [30] [31]. This method develops an analytical framework that structures data into categories to help summarise and reduce it and produce themes. A framework was developed based on six categories from the questions (local context, description of whole system community-centred approach, principles and components, outcomes, learning, transferable knowledge). Data from the first four interviews (cases) were summarised under each category and common concepts or themes (appearing more than once) were given a label (code). Data excerpts from the remaining cases were added into the framework and labelled with the codes or assigned a new one if a new concept or theme emerged. All the data were then re-checked to ensure that all common concepts were coded and had a distinct label. Themes were grouped into categories.

Of the 65 papers included in the systematic review [13], 10 papers reported links between effective community engagement and the success of the intervention. Further data extraction and synthesis was undertaken on these papers to identify community engagement models and methods, barriers and facilitators and alignment to the public health system and goals. Following a search conducted by PHE Knowledge and Libraries and further screening, an additional 14 papers were included in the review and synthesis. These were from US (9), Canada (2), Australia (2) and New Zealand (1). Details of these papers can be found in supplementary file B.

Data from the public survey were inductively analysed by developing and using coding frameworks to produce salient thematic issues. The detail of these findings is reported elsewhere [32].

The themes from the literature review and public survey were then added into the framework as additional data sources, mapping against the existing labels, adding strength or emphasis. This stage of analysis resulted in a complete framework of 26 final themes [31] [30]. These were grouped into describing the context and starting points for the work, the elements that describe what was delivered to achieve a whole system approach to community-centred public health, the principles that underpin how to achieve this and the suggested steps for those starting out on this journey (Table 2).

[Table 2. Thematic framework]

Context:	**Elements of approach – what was delivered:**	**Process for delivery - how:**	**Enablers of whole system approach:**	**Challenges:**

Health inequalities not reducing and the need for a **radical approach** or redesign across the system.	Community-centred prevention approaches as part of **integrated** commissioning alongside community-oriented services with NHS, Social care, Voluntary and Community Sector (VCS)	Informed by in-depth **insight** (research) with communities	Having a strong case for change and overarching **strategic ambition** for the council and partners	The impact of cuts and **austerity** and importance of financial inclusion.
The need to **reduce demand** on services.	Building **VCS capacity** and valuing VCS contribution, including volunteering.	A comprehensive **outcomes framework** that includes community determined outcomes and system indicators that demonstrate short, medium and long-term outcomes at system/ individual/ community levels through quantitative and qualitative data.	**Leadership** by the CEO and Director of Public Health - supported by strong belief or experience in community approaches.	The default position of traditional service provision, that requires **shifting mindsets**.

	Strengthening **communities' capacity** through community development approaches.	Neighbourhood level working that is **hyper-local** (walking distance). Place-based working linked to other agendas.	Centrality of local government **elected members** as community-centred enablers of change.	**Balancing** the differing goals of communities and services. Not losing sight of the importance of bottom-up community outcomes and sticking to these as key determinants/ protective factors for health.
	Community **engagement and coproduction** - a new conversation (between public and agencies) and participative decision-making structures.	A high level shared **narrative** and commitment across all partners.	Access to **finances** - either start-up funding or through de-commissioning.	
	Action to address the **social determinants** of health within the locality e.g. housing, employment, income/ debt, healthy place/ environment.	Recognition that a **long-term approach** is needed, supported by some initial freedom and flexibility to develop a community-informed approach.	A strategic level **partnership** across sectors demonstrating collective bravery and risk-taking.	

	Workforce development building core skills and knowledge in community-centred approaches.	**Embedding** community-centred approaches into all public health priorities and programmes. And an embedded approach to public health in all local government depts. and other partnerships e.g. Clinical Commissioning Groups.	**Building on a history** of active communities and community assets, including strong relationships and high levels of trust between communities and partners.	
	Community asset transfer that is timely and supported to meet community needs	**Values-driven** by community empowerment and trusting relationships.	**Social Value** commissioning	

Findings

Findings on the elements, principles and values for whole system community-centred public health are summarised in Fig 1. In terms of findings on context, interviewees described two main starting points for this work. Firstly, that health inequalities were getting worse within local areas and that leaders had consequently agreed that a radical approach was needed, aligned to redesign of services across the system. There was a recognition that what had been traditionally provided was not working. Secondly, interviewees reported the need to reduce demand on services due to diminishing resources and growing population need. An important context emerging from each evidence source was around austerity and the effect on people's health, community strengths and vitality and the impact of cuts to the services that were previously addressing these.

Fig 1. Whole system approach to community-centred public health. (Source: Public Health England)

[Fig 1]

Elements of a whole system approach

Eleven elements, which were identified through analysis and are labelled (i) through to (xi), describe what needs to be delivered to achieve a whole system approach to community-centred public health – the core actions. These are grouped into four major themes – involving communities, strengthening capacity & capability, scaling practice and sustaining outcomes. (see Figure 1).

Involving communities: Undertaking research with communities (especially the seldom heard) to gain insight from qualitative data to provide a rich understanding of people's lives, public health needs and priorities (i). This is often gathered by community researchers and has been the starting point for service or system redesign through providing compelling stories of people's health and wellbeing. The literature also found that community involvement in research was an effective element [33] [34] [35] .

The existence of active communities was a key element of local systems, enabled where needed by community development, social action and support for grass-roots approaches and community asset transfer (ii).

Participation infrastructures are vital for ongoing engagement, coproduction and participative decision-making, such as neighbourhood forums that bring agencies and community members together for developing joint action and long-term trusting relationships between and within communities, professionals and organisations (iii). The value of community coalitions to agree priorities and deliver local action plans was a strong theme in the literature see for example [24] [27] [28] [29].

Strengthening capacity and capability included valuing the contribution of, and actively building the capacity of, the voluntary and community sector, through market development, facilitating collaboration and supporting volunteering (iv). The literature review also found that a capacity building approach was effective, working with local community organisations, volunteers and community leaders [28] [30] [31] [32].

Workforce capability involved building the knowledge and skills of staff to create connected and empowered communities through community-centred ways of working (v) and embedding community-centred approaches into all public health, prevention and public service reform (vi). This included using levers such as commissioning for social value. One participant described:

"taking a public health department approach so community-centred practice is part of everything we do" (Interviewee 11)

The literature specifically highlighted the tailoring of health education campaigns to community context and marginalised groups [30] [33].

Scaling practice: Firstly, the scaling up of a range of community-centred prevention services and approaches as part of integrated commissioning between public health, social care and

the NHS (vi). Approaches commonly cited were social prescribing and community development, but these were aligned as part of a whole system way of working:

"*We've had a history of lots of initiatives that were community-oriented, but we've brought them together to make it whole system as part of transformational, co-productive, large-scale change."* (Interviewee 3)

"social prescribing as a system not an access route" (Interviewee 11)

This often required a shift in investment as part of a redesign. Scale related to systematising approaches rather than applying a standard model everywhere. Scale at a 'hyper-local' place level was important, through neighbourhood-based working and resources (viii) - described as operating at walking distance for participants rather than on larger organisational footprints. The literature supports a focus on place with attention to cultural issues and addressing health inequalities [27] [29] [31] [36].

Sustaining outcomes: A whole system approach was sustained through having a strategic and long-term ambition for strengthening communities that was shared and communicated between agencies and communities (ix). This included social movement approaches and ways of forming new relationships between the public sector and the public. It also refers to aligning different agencies' agendas where strengthening communities is central to their goals. The long-term nature of this work was recommended by all:

"Don't underestimate the time needed. Without this there is a tendency to revert to a service response rather than a change response" (Interviewee 8).

This was strengthened by the literature review which found developing a shared vision, community ownership and mobilisation as effective elements [37] [38] [39] [40].

Insight informed a comprehensive outcomes framework based on the things that mattered to communities in the long term as well as short and medium-term indicators of community-level determinants of health such as resilient, connected and empowered communities (x). Relevant indicators were not always seen as included within current measurement or monitoring systems:

"*the PHOF [Public Health Outcomes Framework] is too disease focussed, not social capital. We need new measures of quality of life, not smoking anymore*." (Interviewee 1).

"*It was difficult to set outcomes at the beginning as there was a tension between community interests and programme auditing*" (Interviewee 12)

An essential element to the whole system approach was action to address the social determinants of health, such as housing, poverty, employment, environment, crime and safety (xi). These can be structural barriers or prerequisites for community resilience, participation and empowerment:

"we need to change the environment at the same time – regeneration of place alongside regeneration of communities" (Interviewee 1).

Addressing the social determinants was also a priority from our public consultation [32] as well as the literature [23] [27] [39].

Values and principles

Attention to power ran throughout many of the 11 elements, referring to the centrality of power to inequalities, the differential power of partners and how these impact on empowerment. Alongside establishing trust and sustainable relationships, this has been summarised as a key value (Fig 1). It was also supported by the literature [35] [37] [41] [42] and the supplementary evidence sources:

"*the power of a grass roots driven strategy should not be considered 'a challenge to authority' but as a way to develop shared ownership of progress towards self-determined goals*" (People's survey finding).

"*there is often a reluctance to talk about where power lies, and this can only be done at a whole system level*" (roundtable discussion).

The actions were underpinned by five principles for whole system working. (Box 3) These were commonly referred to as shifting from traditional ways of working. One interviewee referred to:

"going back to public health roots of community health development - we had been working at the wrong end" (Interviewee 1).

Another interviewee referred to the:

"need to understand and focus on the protective factors, recovery assets and resilience, not more on the risk factors, in order to understand what makes some people well whilst others living with the same levels of risk are ill." (Interviewee 10).

Box 3: Principles for achieving a whole system approach to community-centred public health.

1. Bold **leadership** to shift from traditional to radical approaches in order to reduce health inequalities. Leading an approach that is strategic, large-scale and creates transformational change.
2. **Shifting mindsets** and redesigning the system aligned to building healthy, resilient, active and inclusive communities.
3. **Collective bravery** for risk-taking action and a strong **partnership** approach across local government tiers and departments, communities, NHS and the VCS, that gives attention to power and building trusting relationships with communities.
4. **Coproduction** of solutions and different ways of working with communities, e.g. social movements

5. Recognising the **complexity** of the protective and risk factors at a community-level that affect people's health and how these interact with the wider determinants of health

Table 3. provides examples of how the elements and values are demonstrated in practice.

Table 3. Examples of how the elements and values of whole system approaches to community-centred public health are demonstrated in practice.

Element	**Examples from practice** (further information at https://phelibrary.koha-ptfs.co.uk/practice-examples/caba/wsa/)
Involving	Dudley Council's community resilience journey started with gathering community stories for six months. This has shaped their whole system approach, including their strategic priorities and outcomes, social value measures and service commissioning frameworks.
	Wellbeing Exeter is robust partnership of public, voluntary and community sector organisations working together, programme managed by Devon Community Foundation. It aims to support people on a journey from dependence on services, to increased involvement and interdependence within better connected, inclusive and more resilient communities.
	Get Oldham Growing is a community engagement programme focused on improving social connections and action on the wider determinants of health. The aim is that 'growing hubs' in all six districts will be sustainable and community run, and this has already started through community interest companies and asset transfers.
Strengthening	Small grass roots organisations in Bracknell Forest are given support to grow through seed funding, marketing and advice on diversity and inclusion. Public health staff have started working closely with community-led groups and doing community development in order to address social connectedness as an underlying cause of poor health.
	Hull's whole system community-centred approaches grew from initial ward-based work on smoking cessation to being central to their whole-public health approach, delivered through community-centred public health commissioning, strengthening of the VCSE sector role and strategic alignment across the system, e.g. a refreshed city plan committed to addressing inequality by achieving fair, inclusive economic growth.
	In Blackburn with Darwen, reductions in access to social support underpin widening health inequalities. Their approach was to build distributed leadership for public health across all departments, sectors and organisations, including neighbourhood-based working to build a social movement approach to public support and social action for change.

Scaling	North Yorkshire re-designed their prevention service in partnership with the VCS, social care and primary care. It is now a more holistic community-oriented service, linking prevention to social work and living well coordinators in local doctor's practices.
	Tower Hamlets 'communities driving change' initiative is whole system working at the neighbourhood level, working with twelve small neighbourhoods (estates) and their residents to improve the availability of good and better things, resulting in more community-oriented local services and better addressing social determinants.
Sustaining	A priority in East Sussex to develop a whole system approach to community resilience has led to partners working together on a 'personal and community resilience programme' with several shared objectives. Sustainability is being achieved through improving communities' capacity to come together to tackle local issues that matter to them most, supporting business to deliver social value and increasing knowledge of community-centred ways of working.
	Wirral is working to make everything more community-centred. Community connectors address the social determinants of health and residents are at the centre of work around the environment, licensing, housing conditions, environmental health and education, through a Wirral Together partnership. Efforts to improve the physical environment are happening at the same time as strengthening communities; "regeneration of place alongside regeneration of communities".
Values	Understanding power and empowerment is core to the Gateshead approach, as this is critical to reducing inequalities. Often, disadvantaged groups lack both a voice and confidence because they have been disempowered by the systems around them. Gateshead's approach is to support people in the knowledge that they have a voice and a right to be listened to. Professional practice is shifting to a bottom-up approach, working with communities through community development approaches and ensuring that the resulting public health activity is owned by communities.

Discussion

"I've never found a single public health issue more powerful than community development to enable a system-wide approach" (Director of Public Health, Interviewee 2)

To reduce widening health inequalities, communities need to be at the heart of public health practice. Community control, neighbourhood belonging and social connectedness are determinants of health that are influenced by social conditions and can be addressed through local action [2] [9] [11]. Those who were interviewed recognised the need for a whole system approach to do this and were actively working towards this. What they were doing and how is summarised in the eleven elements, three values and five principles (fig 1).

The need to scale whole system approaches where communities are central to public health has been recognised elsewhere [21] [23] [43]. Research in England has found fragmented local systems [44] despite a pressing need to reshape service delivery through close partnership working with local organisations. Furthermore, people and communities experience outcomes that are influenced by the whole system around them [45]. That such need requires a radical approach is also recognised [45] [46], especially when inequalities have been widening [5]. Research in Chicago turned the problem around: from asking how community organisations could be more involved in system approaches to population health, to concluding that health systems should be asking how they can be more involved in community-based approaches already underway [47].

The depth of practice across the sites suggest that whole system working to build healthy communities is feasible and possible for wider adoption within other public health systems. Most interviewees were able to report outcomes and there was a range of approaches used or planned by all to evaluate impact. Community determinants of heath and community outcomes remain challenging factors to measure where more work is needed. The elements that were strongest in all our evidence sources were the need to co-produce, identify needs and share decision-making with communities.

A focus on cultural issues was found in the literature [34] [38] [48] but not highlighted in our findings, although could be understood by the need to work at a 'hyper-local' neighbourhood level (element viii). Approaches that address gender or race discrimination in North American contexts were effective in strengthening community networks and coalitions [35] [42], which we did not explore. Community based participatory research (CBPR) was also not as well developed in our English examples as in the international literature. Both CBPR and a whole system focus on discrimination could present areas for development.

At the roundtable discussion the value of describing the work as 'whole system' or 'scaling' was debated. Many of the elements could be seen as already part of a community-centred approach [2]. The adoption of whole system approaches to address public health priorities is a growing area of research and practice [19]. This study contributes an understanding of how to develop a community-centred approach to health and wellbeing.

Whilst the research focussed on whole systems, the interviews were limited to a public health focus. Further research with leaders from other sectors that are increasingly leading population health and prevention could strengthen the place-based approach and transferability of findings to other sectors. The inclusion of community voice was limited to the people's panel and representatives of the VCS sector. The next stage of the work involves testing the findings with local sites, including community members. Appraisal of the perspectives, values, principles and language adopted will strengthen the findings and its transferability.

The English context for the research may limit transferability to other countries, although inclusion of international literature may strengthen this. Many of the results map to themes

raised in other whole systems literature. What this study contributes is an understanding of the range of approaches used by local public health leaders to work with local communities.

The authors note their position in a national government agency limits their scope. The work is with intermediate stakeholders rather than local communities and as such the emphasis is on re-orienting 'top-down' ways of working to complement 'bottom-up' community empowerment efforts [12]. The inclusion of public voice via the PHE People's Panel may also present selection bias, and there is scope for further in-depth research with communities experiencing disadvantage, as this may yield different perspectives. The context of wider national government approaches impacting on social conditions, such as austerity measures, may overshadow other efforts. Further research is needed to understand the impacts and limits that a community-centred public health system has on health inequalities within a wider socioeconomic context.

Conclusion and recommendations

Local public health leaders are in a strong position to develop a whole system approach to reduce health inequalities that puts communities at its heart. The findings summarise current practice and provide a practical guide to taking a whole system approach to community-centred public health. Whilst this is developed within North American literature, there is little UK research in this area.

The elements, values and principles (fig. 1) could be applied by local areas to (1) improve the effectiveness and sustainability of action to build healthy communities, or (2) embed community-centred ways of working within whole systems action to improve population health. The findings could be tested as a framework for taking a whole-approach to community-centred public health.

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a. Contributorship statement

JSt and JSo designed the study, conducted interviews and discussed and finalised the paper. JSt undertook the interview analysis and produced the first draft of the findings and paper; JSo reviewed the literature and supported the public survey data analysis. TM arranged the interviews, roundtable discussion and reviewed the findings and final paper.

b. Competing interests

The authors had no competing interests.

c. Funding

This research was supported by Public Health England (PHE) as part of an Honorary Academic Contract with Leeds Beckett University and received no additional external funding.

d. Data sharing statement

The interview and survey data are not available due to information governance restrictions. The practice examples are in the public domain at https://phelibrary.koha-ptfs.co.uk/practice-examples/caba/wsa/

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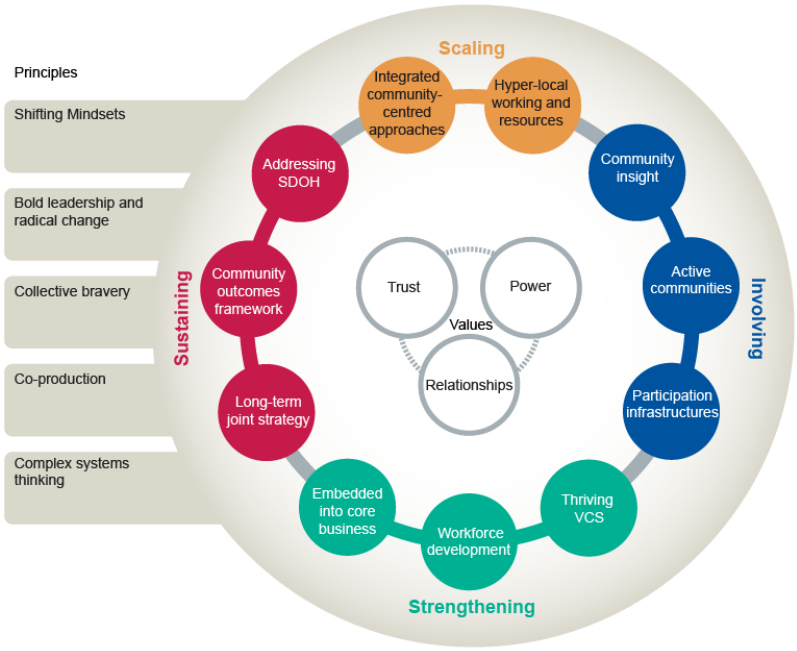
Principles
Shifting Mindsets
Bold leadership and radical change
Collective bravery
Co-production
Complex systems thinking
Scaling
Integrated community-centred approaches
Hyper-local working and resources
Community insight
Active communities
Participation infrastructures
Thriving VCS
Workforce development
Embedded into core business
Long-term joint strategy
Community outcomes framework
Addressing SDOH
Sustaining
Involving
Strengthening
Trust
Power
Values
Relationships

Public Health England

Protecting and improving the nation's health

Healthy communities consultation: people's panel

Introduction:

PHE recognises that communities matter for health.

'Community' as a term is used as shorthand for the relationships, bonds, identities and interests that join people together or give them a shared stake in a place, service, culture or activity. A community can be a geographic area or have a shared interest or identity such as faith-based or social group.

How?
Community life, social connections, sense of belonging and having a voice in local decisions all contribute to health and wellbeing.

These community factors build our sense of control, resilience and wellbeing which also help protect us against illness and help us maintain a healthy lifestyle.

Why does it matter for PHE?
Building strong, connected and inclusive communities is therefore a public health priority.

PHE has produced guidance on the evidence but wants to learn more about what works in creating healthy communities and placing communities at the heart of public health.

We'd like your views:

1. How important is community life for your health and wellbeing and how does it impact?

2. How can public services best support communities to flourish? What actions are needed to ensure everyone can feel part of a community?

3. What things get in the way of or weaken community strengths and vitality?

4. What could the public health system do to put communities at the heart of public health?

Thank you

Supplementary File B. Rapid review on whole system approaches for community-centred public health: included studies

Study	Setting	Study design	Summary of overall intervention	Description of community engagement
Group 1 = represents a sub sample of included studies (n=10) drawn from Bagnall et al's (2019) systematic review 'Whole systems approaches to obesity and other complex public health challenges'				
Amed et al (2016) [1]	CANADA 2 large cities	Mixed-methods evaluation	Live 5-2-1-0 was a multi-sector multi-component childhood obesity prevention initiative informed by systems thinking and an innovative knowledge transfer model.	Rooted in principles of Community-Based Participatory Research (CBPR) Intensive community engagement and formation of multi-sectoral partnerships in communities. Supported by central organisation coordinating efforts. Community specific action plans are tailored to local strengths, needs and priorities.
Kegler et al. (2009) [2]	California, USA. 20 cities	Mixed methods evaluation; case study	California Healthy Cities and Communities (CHCC) initiatives based on a common set of principles including community ownership and participation.	CHCC coalitions are major mechanism for resident involvement. Multi-sectoral coalitions formed with community membership. Overall aim of CHCC to empower local communities/ organisations to improve health at a local level whilst also working to influence policy change. Residents and community partners involved from start in identification of local priorities and joint action plan.
Larson et al. (2009) [3]	Nashville, USA	Mixed methods evaluation	REACH initiative aimed to educate, raise awareness and promote smoking cessation, targeted towards African Americans. Programme worked across policy, community, and individual levels.	Health education and awareness raising across communities and in range of community settings. Education and training of community volunteers to deliver health messages and smoking cessation classes in community. Community engagement in design of intervention not reported.
Liao et al (2010) [4]	42 US communities with high proportion of BAME groups	Prospective cohort study	Racial and Ethnic Approaches to Community Health (REACH) initiative: a nation-wide project that empowers local communities to actively participate in the improvement of their own health.	REACH supported development of community coalitions to design, deliver and evaluate 'community–driven' strategies. Culturally-specific health education campaigns through media and community settings. Links to community leaders and local change agents. Community & systems change focused on reduction of barriers to health, including building 'culturally competent' health care

Study	Setting	Study design	Summary of overall intervention	Description of community engagement
Lieberman et al (2013) [5]	Rockland, New York City, USA	Cross-sectional survey	Put It Out Rockland (PIOR): strategic planning process to build multi-sectoral, multi-level theory-based intervention. Essential Public Health Model – Community mobilisation is one of 9 elements.	Community engagement mostly focused on partnership working with community organisations and 'non-traditional providers' eg schools, businesses PIOR offered group support for smoking cessation, including in community organisations.
Mead et al. (2013) [6]	Northwest territories, Canada (Canadian Arctic)	Natural experiment	Healthy Foods North is a community based, multi-institutional nutritional and lifestyle intervention. Aims to improve food-related psychosocial factors and behaviours among Inuit and Inuvialuit.	Community involvement in design, delivery and evaluation throughout the development of intervention and research study. Some mass media communication and health education in community settings; however, materials etc designed with community involvement. Community members recruited to deliver intervention and as community researchers.
Schulz et al. (2005) [7]	Detroit, USA	Case Study	HEED (healthy eating and exercising to reduce diabetes) was a community-based participatory diabetes intervention. Goal to reduce the risk, or delay the onset, of diabetes by encouraging moderate physical activity and healthy eating.	HEED project developed from a community partnership and through using CBPR. Diabetes identified as a community priority through CBPR. Recruited and trained community residents including youth leaders and community organisers. Reflecting community experiences of discrimination, segregation and diabetes.
Schwarte et al. (2010) [8]	Rural and deprived regions of California USA	Mixed methods evaluation	Central California Regional Obesity Prevention Program (CCROPP) aimed to promote safe places for physical activity; increase access to fruit & veg; and support community and youth engagement.	Community engagement seen as an 'essential strategy' for environmental change. Community residents and youth at each locality engaged in environmental assessments and identifying priorities for action then becoming advocates for local change. Multi-sectoral approach. Partnerships between community and other sectors key.
Simos et al. (2015) [9]	European Healthy Cities Network	Mixed methods evaluation	Use of the Health Impact Assessment in phase V of European Healthy Cities Network.	Involvement of citizens in a municipality (and wider stakeholders) was one of 5 factors increasing acceptability of intervention.

Study	Setting	Study design	Summary of overall intervention	Description of community engagement
Wagenaar et al (1999) [10]	Mid-West USA	Mixed methods evaluation; RCT qualitative study	Communities Mobilizing for Change on Alcohol (CMCA) Intervention focused on policy change and working with the communities involved to change attitudes toward underage drinking.	Used a community organising approach to achieve policy change in local institutions. Community organisers used 7 stage process in each community; moving from a community assessment and identifying leaders through to action planning and institutionalising change.
Group 2 = Included studies identified from a literature search conducted by PHE Knowledge and Libraries. 14 publications that combined a whole system approach with community-centred strategy/programmes were reviewed.				
Brownson et al. (2015) [11]	49 communities, USA & Puerto Rico	Mixed method evaluation	Healthy Kids, Healthy Communities (HKHC) is national multi-level programme focused on policy, system and environmental changes. Focus on inequalities and children most at risk.	Community partnership/coalition approach. Levels of action: Individual, Community, State/policy. Community capacity seen as the ability to identify problems and to develop solutions and mobilise resources. Evaluation principles based on respecting community knowledge.
Cheadle et al.(2008)[12]	14 health departments 39 community groups. California, US	Mixed method evaluation	Partnership for Public Health (PPH) – comprehensive community initiative (CCI). Involved community and organisational capacity building. Many of partnerships in disadvantaged areas.	Dual focus on building community capacity for residents to engage in community health partnerships and capacity building for health departments to respond to community-driven priorities. Collaborations and partnerships are key to comprehensive community initiatives. Partnerships with community groups are platforms for long term change.
Cohen [13] (2016) Sims & Aboelata [14] (2019)	California US	Expert opinion Later article presents 'System of Prevention' framework.	Prevention Institute (PI) developing prevention strategies for policy and practice at local, state & federal levels. 'System of Prevention' is described as a 'framework for a systems approach to population health that can achieve health equity' Frameworks and practical tools produced. Eg THRIVE tool (Tool for Health and Resilience in Vulnerable Environments)	PI approach is based on a social determinants of health approach. Part of work at PI is supporting community-led initiatives. Building local coalitions that address inequities is key element. THRIVE tool can help a community identify elements that require action. Based on 4 elements: *Equitable Opportunity; Medical Services; the Place; People.* In the System of Prevention model 'Elevate community voices and leadership' is key strategy.

Study	Setting	Study design	Summary of overall intervention	Description of community engagement
Hiatt et al [15] (2018)	San Francisco US	Description of model	Cancer prevention approach based on addressing social determinants of health through multi sector partnerships	Aimed to align cancer partnership with existing community coalitions Community engagement and needs assessment critical part of process of building wider partnership
Jones & Louis [16] (2017)	US a) Georgia and Florida - birth outcomes b) Delaware and Iowa - chronic disease	Comparative case study	State Population Health Strategies – multilevel. Analysis of positive outliers ie four states that had success in health trends 8 elements identified from outliers: 1. Government leadership initiating 2. Goldilocks targets 3. Multisector ownership 4. Measurement 5. Focus on disparities; 6. Get local 7. Balance top down with bottom up 8. Coordinate not control (p.7).	Local focus and involvement of community-based organisations were key. Get local meant involving community-based organisations that have 'close ties with most disadvantaged groups Recommendation to balance top down with bottom up and customise local initiatives
Karwalajtys & Kaczorowski[17] (2010)	Canada & other Countries	Description of model	Canadian CVD and hypertension population health programme Argues for population health approach.	Community mobilisation and collaborations – methods to develop partnerships and mobilisation can be applied for other conditions/issues Community organisation and mobilisation approaches aid reach. This can include use of Lay Health Workers.
Khare et al. [18] (2015)	Women & girls US	Description of model	Coalition for a Healthier Community (CHC) uses gender-based approach– at multiple levels: individual, family, community, policy.	Unique features of a gender-based approach, with community needs assessment (gender based analysis) and a strategic approach to incorporating grassroots organisations into coalitions. Tailored interventions and programs based on local needs and data. Coalitions are a key mechanism. Supporting coalitions is linked to long term commitment & building empowering partnerships.
Matheson et al. [19] (2009)	NZ – various communities	Comparative case study	Community-based interventions: a) Housing and health intervention b) Intersectoral community-action for health	Applying complex systems thinking to community-based interventions.
Putland et al.[20] (2013)	Australia	Multiple case study design	Looking at how social capital is beneficial for health and how this theory can be supported through practice.	Community development methods used in three projects, linked with other approaches such as urban regeneration and arts initiatives Found that policy/planners viewed community development as 'operational arm of social capital'. Local workers key to translating social capital as an abstract term to practical activities.

Study	Setting	Study design	Summary of overall intervention	Description of community engagement
				Collaborations and intersectoral approach essential and support needed at all levels.
Robinson & Elliot [21] (2000)	Ontario Canada	Qualitative study	Community-based heart health initiatives	Distinguishes between community development, community organisation (collaborative approach) and community-based (services implementing in the community). Differences in practice explained by contexts.
Taylor et al. [22] (2013)	Rural communities , Australia	Qualitative – multiple case study design	Community partnerships for primary prevention. These are coalitions between different sectors and communities. 4 types of partnership with varying degrees of community control. • Developmental • Instrumental • Empowerment • Contribution	Community partnerships seen as an essential approach to health promotion. Working on notion of a community of place as a 'field of interaction'. Community action and bonds within a place forms basis of collective/communitarian approach to health. Critique offered that much of community 'resource' is lost to system because health sector lacks capacity/ability to form strategic partnerships
Tung et al. [23] (2018	Chicago US	Qualitative study	Diabetes intervention	Cross-sector collaboration around diabetes prevention based around an academic medical centre. Collaboration viewed as an opportunity for greater impact but need to start by looking at what community organisations are doing.
Woolf et al. [24] (2011)	US	Expert opinion - learning from projects	Citizen-centred health promotion. Recommendations to support healthy behaviours based on an understanding of need to focus on social and environmental factors and limits of focusing on health education for individuals.	Citizen-centred health promotion described as multisectoral, community-wide action to create healthier conditions. Needs investment and support in partnerships.

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Reporting checklist for qualitative study.

Based on the SRQR guidelines.

Instructions to authors

Complete this checklist by entering the page numbers from your manuscript where readers will find each of the items listed below.

Your article may not currently address all the items on the checklist. Please modify your text to include the missing information. If you are certain that an item does not apply, please write "n/a" and provide a short explanation.

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	Reporting Item	Page Number
Title		
#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	1

Abstract			
	#2	Summary of the key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results and conclusions	1
Introduction			
Problem formulation	#3	Description and signifcance of the problem / phenomenon studied: review of relevant theory and empirical work; problem statement	2
Purpose or research question	#4	Purpose of the study and specific objectives or questions	3
Methods			
Qualitative approach and research paradigm	#5	Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenolgy, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist / interpretivist) is also recommended; rationale. The rationale should briefly discuss the justification for choosing that theory, approach, method or technique rather than other options available; the assumptions and limitations implicit in those choices and how those choices influence study conclusions and transferability.	3

		As appropriate the rationale for several items might be discussed together.	
Researcher characteristics and reflexivity	#6	Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results and / or transferability	4
Context	#7	Setting / site and salient contextual factors; rationale	3-4
Sampling strategy	#8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	3-4
Ethical issues pertaining to human subjects	#9	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	3
Data collection methods	#10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and modification of procedures in response to evolving study findings; rationale	3-4

Data collection instruments and technologies	#11	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	3-4
Units of study	#12	Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	3-4
Data processing	#13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	5
Data analysis	#14	Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	5
Techniques to enhance trustworthiness	#15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	5
Results/findings			
Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	8-12

Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	8-12
Discussion			
Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	14
Limitations	#19	Trustworthiness and limitations of findings	14
Other			
Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	2
Funding	#21	Sources of funding and other support; role of funders in data collection, interpretation and reporting	2

BMJ Open

What are the elements of a whole system approach to community-centred public health?: a qualitative study with public health leaders in England's local authority areas.

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What are the elements of a whole system approach to community-centred public health?: a qualitative study with public health leaders in England's local authority areas.

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Word count: 4,277

Abstract

Objectives

The aim of the study was to identify key elements of whole system approaches to building healthy communities and putting communities at the heart of public health with a focus on public health practice to reduce health inequalities.

Design

A mixed-method qualitative study was undertaken. The primary method was semi-structured interviews with 17 public health leaders from 12 local areas. This was supplemented by a rapid review of literature, a survey of 342 members of the public via Public Health England's (PHE) People's Panel and a roundtable discussion with 23 stakeholders.

Setting

Local government in England.

Results

Eleven elements of community-centred public health practice that constitute taking a whole system approach were identified. These were grouped into the headings of involving, strengthening, scaling and sustaining. The elements were underpinned by a set of values and principles.

Conclusions

Local public health leaders are in a strong position to develop a whole system approach to reducing health inequalities that puts communities at its heart. The elements, values and principles summarise what a supportive infrastructure looks like and this could be further

tested with other localities and communities as a framework for scaling community-centred public health.

Article summary

Strengths and limitations of this study

- It supports current policy interest and literature in reducing widening health inequalities through greater community engagement and empowerment.
- There was high participation in all methods used in the study; responses from all invited interviewees and 74% of the public contacted (n=342).
- Voices from disadvantaged communities were not directly collected in this study but limited to professional perspectives from community insight work.
- The Framework Method of qualitative analysis was used effectively to distil learning drawn from different perspectives on public health practice.
- The findings could be strengthened by conducting more interviews with other local areas, with leaders from other sectors, who are increasingly taking responsibility for reducing health inequalities, and with community members. There is potential for a further comparative implementation study.

Introduction

This study was part of a project to improve and increase the uptake of local whole system approaches to community-centred public health in Public Health England (PHE). It built on previous work to increase access to, and implementation of, evidence in community-centred approaches [1] [2] [3]. It was developed in direct response to stakeholder requests for more information and support to scale up whole system approaches to shift community-centred ways of working from the margins to core public health practice. This paper describes the findings from research into local government areas (local authorities) that are already making this shift and summarises the elements, values and principles of a whole system approach to community-centred public health.

Health inequalities in England continue to worsen [4] [5] and it is necessary to move on from traditional interventions that have not been working and to scale up those approaches which evidence has shown to be effective [5] [6]. Public health teams have been firmly established within the English local government system since 2013 and these teams are well placed to make this happen [7]. However, local authority capacity and resources have declined in recent years and deprived communities have borne the brunt of funding cuts and experienced rising need and inequalities [5].

Community-centred approaches aim to reduce health inequalities through addressing marginalisation and powerlessness and by creating more sustainable and effective interventions for and with those most in need [8] [9] [10]. Empowerment, equity and social connectedness are recognised as three central concepts of evidence-based practice [1]. Community-centred approaches differ from community-based interventions that merely

engage 'target' populations as recipients of professionally-led activities [1]. Many of the psychosocial factors and pathways that link wider conditions with health behaviours and outcomes exist at the community level and are addressed through community-centred approaches [2] [11] [12]. Effective practice recognises and seeks to address determinants across the pathway e.g. wider factors, such as employment, housing or crime, alongside psychosocial factors of inclusion, belonging, cohesion, empowerment [11].

In the English public health system despite good evidence, long-standing practice and clinical guidance that endorses community-centred approaches [13], there has been a dominance of interventions that focus on individual-level lifestyle behaviours rather than community-level determinants such as social connectedness, sense of belonging and participation in decision-making [1, 6]. Long-standing practice in community-centred approaches has been evident in most local authority areas but not at a reach and depth to affect persistent inequalities. Indeed, such approaches also have potential to further alienate or damage communities if reducing and challenging inequalities is not central to the approach or if they ignore systemic inequities [14] [15] [16]. Box 1 outlines the principles of community-centred approaches, developed from evidence [1] [2].

Box 1 Principles of community-centred approaches

Community-centred approaches are those that:

- Promote health and wellbeing or reduce health inequalities in a community setting, using non-clinical methods.
- Use participatory methods where community members are actively involved in design, delivery and evaluation.
- Have measures in place to address barriers to engagement and enable people to play an active part.
- Utilise and build on local community assets in developing and delivering the project.
- Develop collaborations and partnerships with individuals and groups at most risk of poor health.
- Have a focus on changing the conditions that drive poor health alongside individual factors.
- Aim to increase people's control over their health and lives.

Over recent years there has been increasing interest in applying ideas around complexity and systems thinking to public health and to care systems [6] [17] [18]. Public Health England has begun to explore how whole system approaches can be used to improve health and reduce inequalities, with an initial focus on obesity [19] [20], but community involvement elements are often under-developed or focus on engagement rather than coproduction and empowerment. A whole system approach is defined as "responding to complexity" through a "dynamic way of working", bringing stakeholders, including communities, together to develop "a shared understanding of the challenge" and integrate action to bring about sustainable, long term systems change (P.17) [21]. Complex system thinking in public health can help understand and address the inter-connectedness of distal and proximal determinants, including intermediary (or psychosocial) factors such as community-level determinants.

PHE's Healthy Communities Team is seeking to build on this work, moving beyond commissioning community-centred approaches, to putting communities and community empowerment at the heart of all public health policy and practice and understanding how this can be scaled to a level that impacts on health inequalities [22]. This is an ambition shared outside of England [19], such as in the community-centred health model advocated and scaled by the Prevention Institute in USA that recognises that community conditions are critical to health and community prevention strategies which foster health equity lead to lasting change [23]. Whilst England lacks similar scaled community-centred models, health-in-all-policies [24] and place-based-working [25] are other systems approaches that align to a community-centred approach and offer impact at scale.

Aim and objectives

The aim of the study was to identify key elements of whole system community-centred public health at a local authority level in England. It sought to build on the elements of community-centred approaches (Box 1) by understanding how the public health system could become more community-centred and enable community connectedness and empowerment to be central to its role and functions [22].

The objectives were:

i. To collate learning from local areas currently demonstrating leadership and best practice in reducing health inequalities through community-centred public health.
ii. To engage stakeholders, including community members, in exploring and developing concepts, principles and steps to achieve scale and sustainability in community-centred public health.

Methods

The scope of the study focused on public health practice to reduce health inequalities, which is led by local public health systems. A mixed method study qualitative design was used to explore aspects of public health practice, taking account of different local contexts **[26]**, and to develop pragmatic guidance for local systems. The design was informed by arguments for use of a systems approach to population health **[27]** and for application of systems thinking in public health research **[18]**. This informed the focus at local authority level and the mixed method design drawing in a range of stakeholder perspectives. A project steering group provided oversight to the study and met at the beginning, middle and end to review methods and progress. It included staff from different parts of the organisation working on health inequalities, health improvement, whole system approaches, local authority delivery support, public engagement and voluntary and community sector (VCS) engagement, with the addition of an external adviser who acted as a critical friend. Other external stakeholders were consulted with on an ad-hoc basis and as part of a stakeholder discussion (see below). Ethical approval was submitted to the organisation but was not required for this study.

Patient and public involvement: No patient involved

The primary method was:

Semi-structured interviews with public health leaders from 12 local areas (key informant interviews). Between one and three representatives per area participated in a 60-90-minute interview about their local practice. From a sample of 151 upper-tier local authority areas (who had public health responsibilities), a long-list was generated of 29 who were demonstrating (1) strategic approaches, (2) cross-sector working, (3) leadership and (4) high-quality activity in community-centred approaches to reducing health inequalities. The list came from existing sources: PHE's nine local centres across England and their networks with local authorities, examples from practice written up for PHE's online library (https://phelibrary.koha-ptfs.co.uk/practice-examples/caba/) and Local Government Association case studies (https://www.local.gov.uk/case-studies). The secondary criteria applied to the long-list included achieving (1) geographical spread across the country, (2) diversity in approach and (3) demonstrable outcomes representing maturity of approach. This reduced the list to 12 areas who were approached for interview by email.

Five interviews were with Directors of Public Health, nine were with Consultants in Public Health or programme managers within the local authority, two were with a voluntary organisation that had been commissioned to provide strategic leadership and one interview was with a university researcher who was leading a collaborative project across several local authorities. Some of the interviewees had been involved in previous project work with PHE. Interviews were conducted by phone by either JSt or JSo, using an agreed schedule. Detailed notes were taken and then offered to interviewees for validation.

See Box 2 for lines of inquiry. Supplementary sources of evidence included:

A rapid review of literature [28] was undertaken to gather published evidence that reported on whole system approaches in public health practice in order to supplement the primary data. Three groups of literature were explored:

- International studies reporting on community engagement drawn from a recent systematic review on whole system approaches to public health [19].
- Additional publications focused specifically on whole system community-centred public health, identified by a search conducted by PHE Knowledge & Library Services.
- Key whole system frameworks and UK reports that are being used in the English public health system [29].

A survey of members of the public: An online survey to PHE's People's Panel, which comprised 460 members of the public recruited from annual randomised household door-to-door public health Ipsos Mori market research. There were four demographic variables and five open questions. (see supplementary file A). The first two questions helped to familiarise respondents with the issue. The survey was answered by 74% of the panel (n=342). More details on the sample in Table 1.

Table 1. People's panel survey sample profile

		Frequency	Percent
Sex	Male	101	29.5

	Female	241	70.5
Age	16-24	1	0.3
	25-34	14	4.1
	35-44	34	9.9
	45-54	58	17
	55-64	103	30.1
	65+	125	36.5
	Missing	7	2
Ethnic origin	Asian or Asian British	12	3.5
	Black or Black British	7	2
	Mixed	3	0.9
	White British	292	85.4
	White Other	21	6.1
	Other	1	0.3
	Missing	6	1.8
Region	East Midlands	21	6.1
	East of England	20	5.8
	London	23	6.7
	North East	37	10.8
	North West	71	20.8
	South East	64	18.7
	South West	25	7.3
	West Midlands	21	6.1
	Yorkshire and Humber	56	16.4
	Missing	4	1.2

Stakeholder roundtable discussion: The findings from the three sources were tested with a group of 23 stakeholders at a round-table discussion. Stakeholders included the local area interviewees (n=8), representatives and experts from national bodies in VCS, health and social care sectors (n=10) and representatives from PHE programmes and areas of expertise (n=5). The first round of discussion involved the researchers presenting the findings and opening discussion on themes. The second round started with 4-5 participants giving formal and informal commentaries to provide different sector perspectives and stimulate thinking on the overall theme of whole system approaches to community-centred public health. A chairperson summarised key issues during and after each round. Discussion points were captured by two note-takers.

Box 2. Lines of inquiry:

i. the definition and scope of whole system within this context

ii. the enabling conditions and prerequisites to community-centred public health, along with the barriers and detractors to progress
iii. the principles and components of whole system community-centred public health
iv. the value, advantages and disadvantages, of adopting whole system community-centred public health
v. the alignment of community-centred public health within local system priorities
vi. the key actions that local leaders can take to create a community-centred public health system.

Analysis

Themes were developed iteratively, building from the interviews and corroborated by the literature and public survey.

A thematic analysis of the interview data was undertaken using the Framework Method **[30] [31]**. This method develops an analytical framework that structures data into categories to help summarise and reduce it and produce themes. A framework was developed based on six categories from the questions (local context, description of whole system community-centred approach, principles and components, outcomes, learning, transferable knowledge). Data from the first four interviews (cases) were summarised under each category and common concepts or themes (appearing more than once) were given a label (code). Data excerpts from the remaining cases were added into the framework and labelled with the codes or assigned a new one if a new concept or theme emerged. All the data were then re-checked to ensure that all common concepts were coded and had a distinct label. Themes were grouped into categories.

In the literature review, ten papers, of the 65 included in the systematic review [13], reported links between effective community engagement and the success of the intervention. Further data extraction and synthesis was undertaken on these ten papers to identify community engagement models and methods, barriers and facilitators and alignment to the public health system and goals. Following a search conducted by PHE Knowledge and Libraries and further screening, an additional 14 papers were included in the review and synthesis. These were from US (9), Canada (2), Australia (2) and New Zealand (1). Details of these papers can be found in supplementary file B.

Data from the public survey were inductively analysed by developing and using coding frameworks to produce salient thematic issues. The detail of these findings is reported elsewhere [32].

The themes from the literature review and public survey were then added into the framework as additional data sources, mapping against the existing labels, adding strength or emphasis. This stage of analysis resulted in a complete framework of 26 themes [31] [30]. These were grouped into describing the context and starting points for the work, the elements that describe what was delivered to achieve a whole system approach to community-centred public health, the processes that describe how it was delivered and what the enablers and challenges were to the whole system approach (Table 2).

[Table 2. Thematic framework]

Context:	**Elements of approach – what was delivered:**	**Process for delivery - how:**	**Enablers of whole system approach:**	**Challenges:**
Health inequalities not reducing and the need for a **radical approach** or redesign across the system.	Community-centred prevention approaches as part of **integrated** commissioning alongside community-oriented services with NHS, Social care, Voluntary and Community Sector (VCS)	Informed by in-depth **insight** (research) with communities	Having a strong case for change and overarching **strategic ambition** for the council and partners	The impact of cuts and **austerity** and importance of financial inclusion.
The need to **reduce demand** on services.	Building **VCS capacity** and valuing VCS contribution, including volunteering.	A comprehensive **outcomes framework** that includes community determined outcomes and system indicators that demonstrate short, medium and long-term outcomes at system/ individual/ community levels through quantitative	**Leadership** by the CEO and Director of Public Health - supported by strong belief or experience in community approaches.	The default position of traditional service provision, that requires **shifting mindsets**.

		and qualitative data.		
	Strengthening **communities' capacity** through community development approaches.	Neighbourhood level working that is **hyper-local** (walking distance). Place-based working linked to other agendas.	Centrality of local government **elected members** as community-centred enablers of change.	**Balancing** the differing goals of communities and services. Not losing sight of the importance of bottom-up community outcomes and sticking to these as key determinants/ protective factors for health.
	Community **engagement and coproduction** - a new conversation (between public and agencies) and participative decision-making structures.	A high level shared **narrative** and commitment across all partners.	Access to **finances** - either start-up funding or through de-commissioning.	
	Action to address the **social determinants** of health within	Recognition that a **long-term approach** is needed, supported by	A strategic level **partnership** across sectors demonstrating collective	

	the locality e.g. housing, employment, income/ debt, healthy place/ environment.	some initial freedom and flexibility to develop a community-informed approach.	bravery and risk-taking.	
	Workforce development building core skills and knowledge in community-centred approaches.	**Embedding** community-centred approaches into all public health priorities and programmes. And an embedded approach to public health in all local government depts. and other partnerships e.g. Clinical Commissioning Groups.	**Building on a history** of active communities and community assets, including strong relationships and high levels of trust between communities and partners.	
	Community asset transfer that is timely and supported to meet community needs	**Values-driven** by community empowerment and trusting relationships.	**Social Value** commissioning	

Following presentation and discussion of the themes at the roundtable meeting with stakeholders, they were grouped and regrouped into a practical framework focusing on the elements, principles and values of a whole system approach to community-centred public health which represented a good fit with the data. These findings are reported below. There was an additional output that covered descriptive themes on the suggested steps for those starting out on this journey (See supplementary file C).

Findings

Findings on the elements, principles and values for whole system community-centred public health are summarised in Fig 1. In terms of findings on context, interviewees described two main starting points for this work. Firstly, that health inequalities were getting worse within local areas and that leaders had consequently agreed that a radical approach was needed, aligned to redesign of services across the system. There was a recognition that what had been traditionally provided was not working. Secondly, interviewees reported the need to reduce demand on services due to diminishing resources and growing population need. An important context emerging from each evidence source was around austerity and the effect on people's health, community strengths and vitality and the impact of cuts to the services that were previously addressing these.

Fig 1. Whole system approach to community-centred public health. (Source: Public Health England, 2020, Community-centred public health: taking a whole system approach. Briefing of research findings. https://www.gov.uk/government/publications/community-centred-public-health-taking-a-whole-system-approach)

[Fig 1]

Elements of a whole system approach

Eleven elements, which were identified through analysis and are labelled (i) through to (xi), describe what needs to be delivered to achieve a whole system approach to community-centred public health – the core actions. These are grouped into four major themes – involving communities, strengthening capacity & capability, scaling practice and sustaining outcomes. (see Figure 1).

Involving communities: Undertaking research with communities (especially the seldom heard) to gain insight from qualitative data to provide a rich understanding of people's lives, public health needs and priorities (i. community insight). This is often gathered by community researchers and has been the starting point for service or system redesign through providing compelling stories of people's health and wellbeing. The literature also found that community involvement in research was an effective element [33] [34] [35] .

The existence of active communities was a key element of local systems, enabled where needed by community development, social action and support for grass-roots approaches and community asset transfer (ii. Active communities).

Participation infrastructures are vital for ongoing engagement, coproduction and participative decision-making, such as neighbourhood forums that bring agencies and community members together for developing joint action and long-term trusting relationships between and within communities, professionals and organisations (iii. Participation infrastructures). The value of community coalitions to agree priorities and deliver local action plans was a strong theme in the literature; see for example [24] [27] [28] [29].

Strengthening capacity and capability included valuing the contribution of, and actively building the capacity of, the voluntary and community sector, through market development,

facilitating collaboration and supporting volunteering (iv. Thriving VCS). The literature review also found that a capacity building approach was effective, working with local community organisations, volunteers and community leaders [28] [30] [31] [32].

Workforce capability involved building the knowledge and skills of staff to create connected and empowered communities through community-centred ways of working (v. Workforce development) and embedding community-centred approaches into all public health, prevention and public service reform (vi. Embedded into core business). This included using levers such as commissioning for social value. One participant described:

"taking a public health department approach so community-centred practice is part of everything we do" (Interviewee 11)

The literature specifically highlighted the tailoring of health education campaigns to community context and marginalised groups [30] [33].

Scaling practice: Firstly, the scaling up of a range of community-centred prevention services and approaches as part of integrated commissioning between public health, social care and the NHS (vii. Integrated community-centred approaches). Approaches commonly cited were social prescribing and community development, but these were aligned as part of a whole system way of working:

"*We've had a history of lots of initiatives that were community-oriented, but we've brought them together to make it whole system as part of transformational, co-productive, large-scale change."* (Interviewee 3)

"social prescribing as a system not an access route" (Interviewee 11)

Scale related to systematising approaches rather than applying a standard model everywhere. This often required a shift in investment as part of a redesign. Scale at a 'hyper-local' place level was important, through neighbourhood-based working and resources (viii. Hyper-local working and resources) - described as operating at walking distance for participants rather than on larger organisational footprints. The literature supports a focus on place with attention to cultural issues and addressing health inequalities [27] [29] [31] [36].

Sustaining outcomes: A whole system approach was sustained through having a strategic and long-term ambition for strengthening communities that was shared and communicated between agencies and communities (ix. Long term joint strategy). This included social movement approaches and ways of forming new relationships between the public sector and the public. It also refers to aligning different agencies' agendas where strengthening communities is central to their goals. The long-term nature of this work was recommended by all:

"Don't underestimate the time needed. Without this there is a tendency to revert to a service response rather than a change response" (Interviewee 8).

This was confirmed by the literature review which found developing a shared vision, community ownership and mobilisation as effective elements [37] [38] [39] [40].

Insight informed a comprehensive outcomes framework based on the things that mattered to communities in the long term as well as short and medium-term indicators of community-level determinants of health such as resilient, connected and empowered communities (x. Community outcomes framework). Relevant indicators were not always seen as included within current measurement or monitoring systems:

"*the PHOF [Public Health Outcomes Framework] is too disease focussed, not social capital. We need new measures of quality of life, not smoking anymore*." (Interviewee 1).

"*It was difficult to set outcomes at the beginning as there was a tension between community interests and programme auditing*" (Interviewee 12)

An essential element to the whole system approach was action to address the social determinants of health (SDOH), such as housing, poverty, employment, environment, crime and safety (xi. Addressing SDOH). These can be structural barriers or prerequisites for community resilience, participation and empowerment:

"we need to change the environment at the same time – regeneration of place alongside regeneration of communities" (Interviewee 1).

Addressing the social determinants was also a priority from our public consultation [32] as well as the literature [23] [27] [39].

Values and principles

Attention to power ran throughout many of the 11 elements, referring to the centrality of power to inequalities, the differential power of partners and how these impact on empowerment. Alongside establishing trust and sustainable relationships, attention to power makes up the three values summarised at the centre of the framework (Fig 1. These values were also supported by the literature [35] [37] [41] [42] and the supplementary evidence sources:

"*the power of a grass roots driven strategy should not be considered 'a challenge to authority' but as a way to develop shared ownership of progress towards self-determined goals*" (People's survey finding).

"*there is often a reluctance to talk about where power lies, and this can only be done at a whole system level*" (roundtable discussion).

The actions were underpinned by five principles for whole system working. (Box 3) These were commonly referred to as shifting from traditional ways of working. One interviewee referred to:

"going back to public health roots of community health development - we had been working at the wrong end" (Interviewee 1).

Another interviewee referred to the:

"need to understand and focus on the protective factors, recovery assets and resilience, not more on the risk factors, in order to understand what makes some people well whilst others living with the same levels of risk are ill." (Interviewee 10).

Box 3: Principles for achieving a whole system approach to community-centred public health.

1. Bold **leadership** to shift from traditional to radical approaches in order to reduce health inequalities. Leading an approach that is strategic, large-scale and creates transformational change.
2. **Shifting mindsets** and redesigning the system aligned to building healthy, resilient, active and inclusive communities.
3. **Collective bravery** for risk-taking action and a strong **partnership** approach across local government tiers and departments, communities, NHS and the VCS, that gives attention to power and building trusting relationships with communities.
4. **Coproduction** of solutions and different ways of working with communities, e.g. social movements
5. Recognising the **complexity** of the protective and risk factors at a community-level that affect people's health and how these interact with the wider determinants of health

Table 3. provides examples of how the elements and values are demonstrated in practice.

Table 3. Examples of how the elements and values of whole system approaches to community-centred public health are demonstrated in practice.

Element	**Examples from practice** (further information at https://phelibrary.koha-ptfs.co.uk/practice-examples/caba/wsa/)
Involving	Dudley Council's community resilience journey started with gathering community stories for six months. This has shaped their whole system approach, including their strategic priorities and outcomes, social value measures and service commissioning frameworks.
	Wellbeing Exeter is a robust partnership of public, voluntary and community sector organisations working together, programme managed by Devon Community Foundation. It aims to support people on a journey from dependence on services, to increased involvement and interdependence within better connected, inclusive and more resilient communities.
	Get Oldham Growing is a community engagement programme focused on improving social connections and action on the wider determinants of health. The aim is that 'growing hubs' in all six districts will be sustainable and community run, and this has already started through community interest companies and asset transfers.

Strengthening	Small grass roots organisations in Bracknell Forest are given support to grow through seed funding, marketing and advice on diversity and inclusion. Public health staff have started working closely with community-led groups and doing community development in order to address social connectedness as an underlying cause of poor health.
	Hull's whole system community-centred approaches grew from initial ward-based work on smoking cessation to being central to their whole-public health approach, delivered through community-centred public health commissioning, strengthening of the VCSsector role and strategic alignment across the system, e.g. a refreshed city plan committed to addressing inequality by achieving fair, inclusive economic growth.
	In Blackburn with Darwen, reductions in access to social support underpin widening health inequalities. Their approach was to build distributed leadership for public health across all departments, sectors and organisations, including neighbourhood-based working to build a social movement approach to public support and social action for change.
Scaling	North Yorkshire re-designed their prevention service in partnership with the VCS, social care and primary care. It is now a more holistic community-oriented service, linking prevention to social work and living well coordinators in local doctor's practices.
	Tower Hamlets 'communities driving change' initiative is whole system working at the neighbourhood level, working with twelve small neighbourhoods (estates) and their residents to improve the availability of good and better things, resulting in more community-oriented local services and better addressing social determinants.
Sustaining	A priority in East Sussex to develop a whole system approach to community resilience has led to partners working together on a 'personal and community resilience programme' with several shared objectives. Sustainability is being achieved through improving communities' capacity to come together to tackle local issues that matter to them most, supporting business to deliver social value and increasing knowledge of community-centred ways of working.
	Wirral is working to make everything more community-centred. Community connectors address the social determinants of health and residents are at the centre of work around the environment, licensing, housing conditions, environmental health and education, through a Wirral Together partnership. Efforts to improve the physical environment are happening at the same time as strengthening communities; "regeneration of place alongside regeneration of communities".
Values	Understanding power and empowerment is core to the Gateshead approach, as this is critical to reducing inequalities. Often, disadvantaged groups lack both a voice and confidence because

	they have been disempowered by the systems around them. Gateshead's approach is to support people in the knowledge that they have a voice and a right to be listened to. Professional practice is shifting to a bottom-up approach, working with communities through community development approaches and ensuring that the resulting public health activity is owned by communities.

Discussion

"I've never found a single public health issue more powerful than community development to enable a system-wide approach" (Director of Public Health, Interviewee 2)

To reduce widening health inequalities, communities need to be at the heart of public health practice. Community control, neighbourhood belonging and social connectedness are determinants of health that are influenced by social conditions and can be addressed through local action [2] [9] [11]. Those interviewed recognised the need for a whole system approach to do this and were actively working towards this. What they were doing and how is summarised in the eleven elements, three values and five principles (fig 1). The need to scale whole system approaches where communities are central to public health has been recognised elsewhere [21] [23] [43]. Research in England has found fragmented local systems [44] despite a pressing need to reshape service delivery through close partnership working with local organisations. Furthermore, people and communities experience outcomes that are influenced by the whole system around them [45]. That a level of need requires a radical approach is also recognised [45] [46], especially when inequalities have been widening [5]. Research in Chicago turned the problem around: from asking how community organisations could be more involved in system approaches to population health, to concluding that health systems should be asking how they can be more involved in community-based approaches already underway [47].

The depth of practice across the sites suggest that whole system working to build healthy communities is feasible and possible for wider adoption within other public health systems. Most interviewees were able to report outcomes and there was a range of approaches used or planned by all to evaluate impact. Community determinants of heath and community outcomes remain challenging factors to measure and this is an area where more work is needed. The elements that were strongest in all our evidence sources were the need to co-produce, identify needs and share decision-making with communities.

A focus on cultural issues was found in the literature [34] [38] [48] but not highlighted in our findings, although could be understood by the need to work at a 'hyper-local' neighbourhood level (element viii). Approaches that address gender or race discrimination in North American contexts were effective in strengthening community networks and coalitions [35] [42], which we did not explore. Community based participatory research (CBPR) was also not as well developed in our English examples as in the international literature. Both CBPR and a whole system focus on discrimination could present areas for development.

At the roundtable discussion, the value of describing the work as 'whole system' or 'scaling' was debated. Many of the elements could be seen as already part of a community-centred approach [2]. The adoption of whole system and complex system approaches to address public health priorities is a growing area of research and practice [18] [19]. Recognising the importance of multiple inter-related determinants is an important feature. This was exemplified in the local work where community empowerment and capacity building were done alongside inclusive economic growth, housing improvement, regeneration of place, licensing, education improvement, poverty reduction and community safety. This study contributes an understanding of how to develop a community-centred approach to public health whole system working.

Whilst the research focussed on whole systems, the interviews were limited to a public health focus. Further research with leaders from other sectors that are increasingly leading population health and prevention could strengthen the place-based approach and transferability of findings to other sectors. The inclusion of community voice was limited to the people's panel and representatives of the VCS sector. Voices from disadvantaged communities was limited to professional perspectives drawing on their local insight working in those areas. The next stage of the work involves testing the findings with local sites, including community members. Appraisal of the perspectives, values, principles and language adopted will strengthen the findings and its transferability. The focus in this study on creating a supportive infrastructure for working with communities should be used alongside methods, such as CBPR, that develop deep, long term work with communities dealing with power imbalances.

The English context for the research may limit transferability to other countries, although inclusion of international literature may strengthen this. Many of the results map to themes raised in other whole systems literature. What this study contributes is an understanding of the range of approaches used by local public health leaders to work with local communities.

The authors note their position in a national government agency limits their scope. The work is with intermediate stakeholders rather than local communities and as such the emphasis is on re-orienting 'top-down' ways of working to complement 'bottom-up' community empowerment efforts [12]. This acknowledges that action needs to take place around organisational development and creating a supportive infrastructure as well as community development [13] [41]. The inclusion of public voice via the PHE People's Panel is subject to bias and not likely to be representative of disadvantaged communities. Further in-depth research with communities experiencing disadvantage would be beneficial. An accessible community engagement system would support this. The context of wider national government approaches impacting on social conditions, such as austerity measures, may overshadow other efforts. Further research is needed to understand the impacts and limits that a community-centred public health system has on health inequalities within a wider socioeconomic context.

Conclusion and recommendations

Local public health leaders are in a strong position to develop a whole system approach to reduce health inequalities that puts communities at its heart. The findings summarise current practice and provide a practical guide to taking a whole system approach to community-centred public health. Whilst this is developed within North American literature, there is little UK research in this area.

The elements, values and principles (fig. 1) could be applied by local areas to (1) improve the effectiveness and sustainability of action to build healthy communities, or (2) embed community-centred ways of working within whole systems action to improve population health. The findings could be tested as a framework for taking a whole-approach to community-centred public health.

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a. Contributorship statement

JSt and JSo designed the study, conducted interviews and discussed and finalised the paper. JSt undertook the interview analysis and produced the first draft of the findings and paper; JSo reviewed the literature and supported the public survey data analysis. TM arranged the interviews, roundtable discussion and reviewed the findings and final paper.

b. Competing interests

The authors had no competing interests. The views expressed in this article are those of the author(s) and are not necessarily those of Public Health England.

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d. Data sharing statement

The interview and survey data are not available due to information governance restrictions. The practice examples are in the public domain at https://phelibrary.koha-ptfs.co.uk/practice-examples/caba/wsa/

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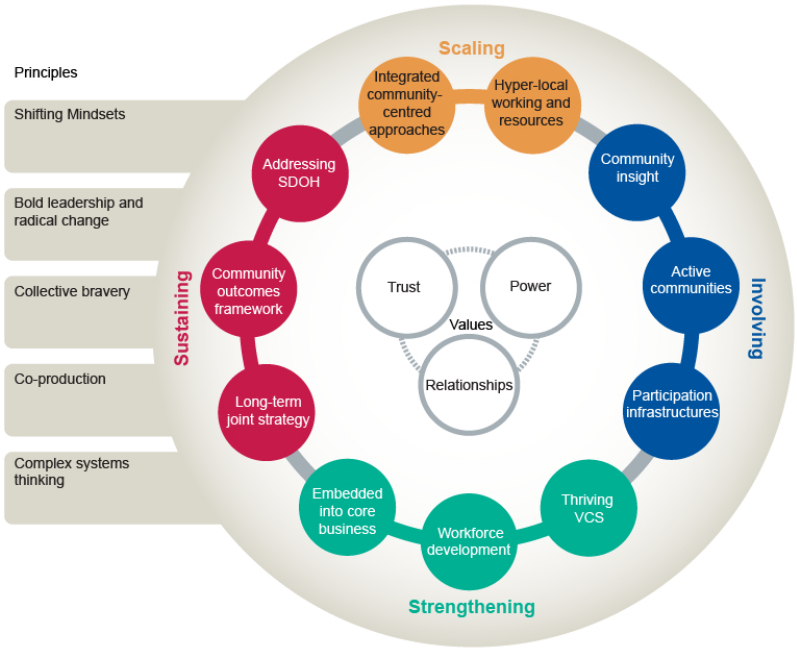
Principles
Shifting Mindsets
Bold leadership and radical change
Collective bravery
Co-production
Complex systems thinking
Scaling
Integrated community-centred approaches
Hyper-local working and resources
Involving
Community insight
Active communities
Participation infrastructures
Strengthening
Thriving VCS
Workforce development
Embedded into core business
Sustaining
Long-term joint strategy
Community outcomes framework
Addressing SDOH
Trust
Power
Values
Relationships

Supplementary file A: People's Panel survey schedule

Public Health England

Protecting and improving the nation's health

Healthy communities consultation: people's panel

Introduction:

PHE recognises that communities matter for health.

'Community' as a term is used as shorthand for the relationships, bonds, identities and interests that join people together or give them a shared stake in a place, service, culture or activity. A community can be a geographic area or have a shared interest or identity such as faith-based or social group.

How?
Community life, social connections, sense of belonging and having a voice in local decisions all contribute to health and wellbeing.

These community factors build our sense of control, resilience and wellbeing which also help protect us against illness and help us maintain a healthy lifestyle.

Why does it matter for PHE?
Building strong, connected and inclusive communities is therefore a public health priority.

PHE has produced guidance on the evidence but wants to learn more about what works in creating healthy communities and placing communities at the heart of public health.

We'd like your views:

1. How important is community life for your health and wellbeing and how does it impact?

2. How can public services best support communities to flourish? What actions are needed to ensure everyone can feel part of a community?

3. What things get in the way of or weaken community strengths and vitality?

4. What could the public health system do to put communities at the heart of public health?

Thank you

Supplementary File B. Rapid review on whole system approaches for community-centred public health: included studies

Study	Setting	Study design	Summary of overall intervention	Description of community engagement
Group 1 = represents a sub sample of included studies (n=10) drawn from Bagnall et al's (2019) systematic review 'Whole systems approaches to obesity and other complex public health challenges'				
Amed et al (2016) [1]	CANADA 2 large cities	Mixed-methods evaluation	Live 5-2-1-0 was a multi-sector multi-component childhood obesity prevention initiative informed by systems thinking and an innovative knowledge transfer model.	Rooted in principles of Community-Based Participatory Research (CBPR) Intensive community engagement and formation of multi-sectoral partnerships in communities. Supported by central organisation coordinating efforts. Community specific action plans are tailored to local strengths, needs and priorities.
Kegler et al. (2009) [2]	California, USA. 20 cities	Mixed methods evaluation; case study	California Healthy Cities and Communities (CHCC) initiatives based on a common set of principles including community ownership and participation.	CHCC coalitions are major mechanism for resident involvement. Multi-sectoral coalitions formed with community membership. Overall aim of CHCC to empower local communities/ organisations to improve health at a local level whilst also working to influence policy change. Residents and community partners involved from start in identification of local priorities and joint action plan.
Larson et al. (2009) [3]	Nashville, USA	Mixed methods evaluation	REACH initiative aimed to educate, raise awareness and promote smoking cessation, targeted towards African Americans. Programme worked across policy, community, and individual levels.	Health education and awareness raising across communities and in range of community settings. Education and training of community volunteers to deliver health messages and smoking cessation classes in community. Community engagement in design of intervention not reported.
Liao et al (2010) [4]	42 US communities with high proportion of BAME groups	Prospective cohort study	Racial and Ethnic Approaches to Community Health (REACH) initiative: a nation-wide project that empowers local communities to actively participate in the improvement of their own health.	REACH supported development of community coalitions to design, deliver and evaluate 'community–driven' strategies. Culturally-specific health education campaigns through media and community settings. Links to community leaders and local change agents. Community & systems change focused on reduction of barriers to health, including building 'culturally competent' health care

Study	Setting	Study design	Summary of overall intervention	Description of community engagement
Lieberman et al (2013) [5]	Rockland, New York City, USA	Cross-sectional survey	Put It Out Rockland (PIOR): strategic planning process to build multi-sectoral, multi-level theory-based intervention. Essential Public Health Model – Community mobilisation is one of 9 elements.	Community engagement mostly focused on partnership working with community organisations and 'non-traditional providers' eg schools, businesses PIOR offered group support for smoking cessation, including in community organisations.
Mead et al. (2013) [6]	Northwest territories, Canada (Canadian Arctic)	Natural experiment	Healthy Foods North is a community based, multi-institutional nutritional and lifestyle intervention. Aims to improve food-related psychosocial factors and behaviours among Inuit and Inuvialuit.	Community involvement in design, delivery and evaluation throughout the development of intervention and research study. Some mass media communication and health education in community settings; however, materials etc designed with community involvement. Community members recruited to deliver intervention and as community researchers.
Schulz et al. (2005) [7]	Detroit, USA	Case Study	HEED (healthy eating and exercising to reduce diabetes) was a community-based participatory diabetes intervention. Goal to reduce the risk, or delay the onset, of diabetes by encouraging moderate physical activity and healthy eating.	HEED project developed from a community partnership and through using CBPR. Diabetes identified as a community priority through CBPR. Recruited and trained community residents including youth leaders and community organisers. Reflecting community experiences of discrimination, segregation and diabetes.
Schwarte et al. (2010) [8]	Rural and deprived regions of California USA	Mixed methods evaluation	Central California Regional Obesity Prevention Program (CCROPP) aimed to promote safe places for physical activity; increase access to fruit & veg; and support community and youth engagement.	Community engagement seen as an 'essential strategy' for environmental change. Community residents and youth at each locality engaged in environmental assessments and identifying priorities for action then becoming advocates for local change. Multi-sectoral approach. Partnerships between community and other sectors key.
Simos et al. (2015) [9]	European Healthy Cities Network	Mixed methods evaluation	Use of the Health Impact Assessment in phase V of European Healthy Cities Network.	Involvement of citizens in a municipality (and wider stakeholders) was one of 5 factors increasing acceptability of intervention.

Study	Setting	Study design	Summary of overall intervention	Description of community engagement
Wagenaar et al (1999) [10]	Mid-West USA	Mixed methods evaluation; RCT qualitative study	Communities Mobilizing for Change on Alcohol (CMCA) Intervention focused on policy change and working with the communities involved to change attitudes toward underage drinking.	Used a community organising approach to achieve policy change in local institutions. Community organisers used 7 stage process in each community; moving from a community assessment and identifying leaders through to action planning and institutionalising change.
Group 2 = Included studies identified from a literature search conducted by PHE Knowledge and Libraries. 14 publications that combined a whole system approach with community-centred strategy/programmes were reviewed.				
Brownson et al. (2015) [11]	49 communities , USA & Puerto Rico	Mixed method evaluation	Healthy Kids, Healthy Communities (HKHC) is national multi-level programme focused on policy, system and environmental changes. Focus on inequalities and children most at risk.	Community partnership/coalition approach. Levels of action: Individual, Community, State/policy. Community capacity seen as the ability to identify problems and to develop solutions and mobilise resources. Evaluation principles based on respecting community knowledge.
Cheadle et al.(2008)[12]	14 health departments 39 community groups. California, US	Mixed method evaluation	Partnership for Public Health (PPH) – comprehensive community initiative (CCI). Involved community and organisational capacity building. Many of partnerships in disadvantaged areas.	Dual focus on building community capacity for residents to engage in community health partnerships and capacity building for health departments to respond to community-driven priorities. Collaborations and partnerships are key to comprehensive community initiatives. Partnerships with community groups are platforms for long term change.
Cohen [13] (2016) Sims & Aboelata [14] (2019)	California US	Expert opinion Later article presents 'System of Prevention' framework.	Prevention Institute (PI) developing prevention strategies for policy and practice at local, state & federal levels. 'System of Prevention' is described as a 'framework for a systems approach to population health that can achieve health equity' Frameworks and practical tools produced. Eg THRIVE tool (Tool for Health and Resilience in Vulnerable Environments)	PI approach is based on a social determinants of health approach. Part of work at PI is supporting community-led initiatives. Building local coalitions that address inequities is key element. THRIVE tool can help a community identify elements that require action. Based on 4 elements: *Equitable Opportunity; Medical Services; the Place; People.* In the System of Prevention model 'Elevate community voices and leadership' is key strategy.

Study	Setting	Study design	Summary of overall intervention	Description of community engagement
Hiatt et al [15] (2018)	San Francisco US	Description of model	Cancer prevention approach based on addressing social determinants of health through multi sector partnerships	Aimed to align cancer partnership with existing community coalitions Community engagement and needs assessment critical part of process of building wider partnership
Jones & Louis [16] (2017)	US a) Georgia and Florida - birth outcomes b) Delaware and Iowa - chronic disease	Comparative case study	State Population Health Strategies – multilevel. Analysis of positive outliers ie four states that had success in health trends 8 elements identified from outliers: 1. Government leadership initiating 2. Goldilocks targets 3. Multisector ownership 4. Measurement 5. Focus on disparities; 6. Get local 7. Balance top down with bottom up 8. Coordinate not control (p.7).	Local focus and involvement of community-based organisations were key. Get local meant involving community-based organisations that have 'close ties with most disadvantaged groups Recommendation to balance top down with bottom up and customise local initiatives
Karwalajtys & Kaczorowski[17] (2010)	Canada & other Countries	Description of model	Canadian CVD and hypertension population health programme Argues for population health approach.	Community mobilisation and collaborations – methods to develop partnerships and mobilisation can be applied for other conditions/issues Community organisation and mobilisation approaches aid reach. This can include use of Lay Health Workers.
Khare et al. [18] (2015)	Women & girls US	Description of model	Coalition for a Healthier Community (CHC) uses gender-based approach– at multiple levels: individual, family, community, policy.	Unique features of a gender-based approach, with community needs assessment (gender based analysis) and a strategic approach to incorporating grassroots organisations into coalitions. Tailored interventions and programs based on local needs and data. Coalitions are a key mechanism. Supporting coalitions is linked to long term commitment & building empowering partnerships.
Matheson et al. [19] (2009)	NZ – various communities	Comparative case study	Community-based interventions: a) Housing and health intervention b) Intersectoral community-action for health	Applying complex systems thinking to community-based interventions.
Putland et al.[20] (2013)	Australia	Multiple case study design	Looking at how social capital is beneficial for health and how this theory can be supported through practice.	Community development methods used in three projects, linked with other approaches such as urban regeneration and arts initiatives Found that policy/planners viewed community development as 'operational arm of social capital'. Local workers key to translating social capital as an abstract term to practical activities.

Study	Setting	Study design	Summary of overall intervention	Description of community engagement
				Collaborations and intersectoral approach essential and support needed at all levels.
Robinson & Elliot [21] (2000)	Ontario Canada	Qualitative study	Community-based heart health initiatives	Distinguishes between community development, community organisation (collaborative approach) and community-based (services implementing in the community). Differences in practice explained by contexts.
Taylor et al. [22] (2013)	Rural communities , Australia	Qualitative – multiple case study design	Community partnerships for primary prevention. These are coalitions between different sectors and communities. 4 types of partnership with varying degrees of community control. • Developmental • Instrumental • Empowerment • Contribution	Community partnerships seen as an essential approach to health promotion. Working on notion of a community of place as a 'field of interaction'. Community action and bonds within a place forms basis of collective/communitarian approach to health. Critique offered that much of community 'resource' is lost to system because health sector lacks capacity/ability to form strategic partnerships
Tung et al. [23] (2018	Chicago US	Qualitative study	Diabetes intervention	Cross-sector collaboration around diabetes prevention based around an academic medical centre. Collaboration viewed as an opportunity for greater impact but need to start by looking at what community organisations are doing.
Woolf et al. [24] (2011)	US	Expert opinion - learning from projects	Citizen-centred health promotion. Recommendations to support healthy behaviours based on an understanding of need to focus on social and environmental factors and limits of focusing on health education for individuals.	Citizen-centred health promotion described as multisectoral, community-wide action to create healthier conditions. Needs investment and support in partnerships.

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Where to start

Any local area, whatever their experience, has the potential to build a whole system approach to community-centred public health. Local leaders, who were interviewed as part of developing this framework, recommended some good starting points:

Source: Public Health England, “Community-centred public health: taking a whole system approach. Briefing of research findings,” Public Health England, London, 2020. https://www.gov.uk/government/publications/community-centred-public-health-taking-a-whole-system-approach. Subject to Crown Copyright and published under the Open Government license: http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/

Reporting checklist for qualitative study.

Based on the SRQR guidelines.

Instructions to authors

Complete this checklist by entering the page numbers from your manuscript where readers will find each of the items listed below.

Your article may not currently address all the items on the checklist. Please modify your text to include the missing information. If you are certain that an item does not apply, please write "n/a" and provide a short explanation.

Upload your completed checklist as an extra file when you submit to a journal.

In your methods section, say that you used the SRQRreporting guidelines, and cite them as:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. Acad Med. 2014;89(9):1245-1251.

	Reporting Item	Page Number
Title		
#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	1

Abstract			
	#2	Summary of the key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results and conclusions	1
Introduction			
Problem formulation	#3	Description and signifcance of the problem / phenomenon studied: review of relevant theory and empirical work; problem statement	2
Purpose or research question	#4	Purpose of the study and specific objectives or questions	3
Methods			
Qualitative approach and research paradigm	#5	Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenolgy, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist / interpretivist) is also recommended; rationale. The rationale should briefly discuss the justification for choosing that theory, approach, method or technique rather than other options available; the assumptions and limitations implicit in those choices and how those choices influence study conclusions and transferability.	3

		As appropriate the rationale for several items might be discussed together.	
Researcher characteristics and reflexivity	#6	Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results and / or transferability	4
Context	#7	Setting / site and salient contextual factors; rationale	3-4
Sampling strategy	#8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	3-4
Ethical issues pertaining to human subjects	#9	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	3
Data collection methods	#10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and modification of procedures in response to evolving study findings; rationale	3-4

Data collection instruments and technologies	#11	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	3-4
Units of study	#12	Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	3-4
Data processing	#13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	5
Data analysis	#14	Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	5
Techniques to enhance trustworthiness	#15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	5
Results/findings			
Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	8-12

Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	8-12
Discussion			
Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	14
Limitations	#19	Trustworthiness and limitations of findings	14
Other			
Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	2
Funding	#21	Sources of funding and other support; role of funders in data collection, interpretation and reporting	2