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Community-led housing and health: a comprehensive literature review

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About this report

Power to Change commissioned this work in February 2019. The scope was to provide a comprehensive review of evidence on the link between community-led housing and health. Staff from the World Health Organisation Collaborating Centre for Healthy Urban Environments and the Centre for Sustainable Planning and Environments from the University of the West of England (UWE) came together to conduct this review.

This report presents a synthesis of relevant literature on the topic of community-led housing and health. Additionally, it sets out the review process of searching and analysing academic databases and grey literature sources.

Like Power to Change, the authors recognise the importance of community-led models in future housing delivery. This report contributes towards an evidence base that recognises the existing and potential value of communities being involved in creating their own housing solutions.

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Executive summary

Introduction

This report examines existing literature on the relationship between community-led housing (CLH) and health and wellbeing, with a particular focus on identifying what evidence is available and where future research may further strengthen this knowledge base. CLH has gained attention at both citizen and government scale in recent years (Fromm, 2012; Tummers, 2016). As shortages in affordable housing for sale and rent have become acutely apparent, alternative approaches to housing delivery have received greater recognition (Cerulli and Field, 2011). The studies included in this review create a strong foundation of evidence on the relationship between CLH and health and wellbeing.

Methodology

This study was conducted using a systematic review methodology. We searched academic and grey literature sources to identify previous studies on the topic of CLH and health and wellbeing. The review documents the characteristics of the relevant studies providing a detailed overview of evidence within the CLH sector. Barton and Grant's (2006) 'health map' framework was used to ensure the review considered a range of conditions that impact on health and the interplay between them. The findings were grouped under five thematic clusters. These clusters were presented at a research seminar attended by CLH practitioners, CLH project members, health professionals, academic staff and other individuals interested in the subject area. This seminar offered an opportunity to reflect on the findings of this review and discuss how future research may build on existing evidence and contribute to practice.

Findings

The findings from this review show how a range of different CLH models support improved health and wellbeing. Existing research in this field is heavily weighted towards qualitative, small scale studies with very limited quantitative or larger scale studies being undertaken.

However, our review evidences how CLH can contribute toward:

- **healthy ageing** – evidence suggests that CLH can support healthy ageing. Literature documented how cohousing communities in particular may reduce the health and social care costs associated with ageing. Stronger social ties and intergenerational support reduce the need for external care and enable people to age in their own homes. In some cases, living in a CLH project was perceived to slow age-related health decline through actions such as supporting each other to exercise and eating healthy meals together. Additionally, some literature evidenced that living collectively supported residents to maintain higher perceived quality of life despite age-related health deterioration. These studies demonstrate the potential economic benefits of CLH, not only for individuals but also for public sector health spending.
- **social inclusion** – we found clear links between CLH and social inclusion, such as increased social capital and social cohesion. Residents of CLH schemes reported an increased sense of belonging and connection to their neighbours. Additionally, literature reported a willingness to share tasks and resources. This not only led to people feeling more connected but also provided more practical outcomes such as shared childcare, or reducing time spent preparing meals, in turn creating more leisure time and reducing time pressure related stress.
- **improved physical health** – a small but notable collection of literature referenced physical health benefits from CLH. Support to undertake physical activity and healthier eating behaviours were the key physical health benefits recorded.
- **tackling multiple disadvantages** – we found evidence on the scope for CLH to provide housing for people who experience multiple disadvantages or barriers. This is a small but important theme within literature on CLH and health and wellbeing. Studies demonstrated how CLH models may support people who have experienced homelessness or mental health difficulties, as well as refugee and asylum seekers, to find secure and supportive housing options.

– **meeting additional support needs** – This review evidenced how CLH can create positive environments for people with additional support needs. Studies included within this review reported on a therapeutic community supporting people with learning disabilities and a residential mental health community.

Conclusions

This review identified a number of ways that CLH can support health and wellbeing. It can support the needs of people with specific health requirements as well as providing more generalised benefits to residents. However, we found that the benefits associated with CLH were not often framed through a health lens, despite offering the potential to make significant contributions to public health agendas. Using a health framework such as Barton and Grant's (2006) 'health map' could enable future studies to draw clearer links between CLH and the range of determinants that impact on people's health.

Future steps and recommendations

CLH notably contributes to a health and wellbeing agenda, meeting many of the social and physical needs of residents. CLH also demonstrates alternatives to mainstream developer-led approaches to the production of affordable housing. However, there is still limited evidence that clearly sets out the links between CLH and health. In building a strong evidence base for support, future research could:

– broaden out to be less heavily weighted towards cohousing communities

– employ a more diverse range of methods and measures, including larger-scale quantitative studies

– explore more anecdotal claims around increased green space and high environmental standards, and build on existing research in this area to create a rigorous evidence base

– explore in greater depth the scope for CLH to provide short- and medium-term housing solutions.

1. Context

The aim of this review is to provide a detailed account of how the relationship between community-led housing (CLH) and health and wellbeing is documented in existing literature. First, the report defines key terms, before going on to detail the methodology and search strategy. It then outlines the five main areas in which a relationship between CLH and health appears in the literature. These demonstrate some important findings as well as scope for future projects which can develop and extend this emerging knowledge base.

1.1 Community-led housing

CLH has experienced increased attention in recent years (Fromm, 2012; Moore and Mullins, 2013; Javis, 2015; Tummers, 2016; Mullins, 2018), which has been attributed to a couple of key factors. The first relates to a lack of suitable housing. Literature points to a shortage in affordable housing and precarious rental conditions (Cerulli and Field, 2011; Moore and Mullins, 2013). The second influencing factor relates to a more ideological position. Literature refers to a growing desire for a sense of belonging, a need to feel connected to a community, and an increasing rejection of dominant models of consumption (Javis, 2015). Increasing the quality of life for residents may often be a goal of many CLH projects, but this is rarely expressed in 'health outcomes' terminology. Despite variation in motivations, there is general consensus that CLH models stand to make a valuable contribution to housing stock (Bliss, 2009; Gulliver et al., 2013).

The CLH movement includes a range of different models such as co-operatives, cohousing, community land trusts, community self-builds, self-help housing and tenant-managed organisations. These models may have very different funding or governance structures. While the CLH movement is diverse, national organisations within the UK sector have agreed on the following definition – CLH is housing development which meets the following three criteria:

1. A requirement that meaningful community engagement and consent occurs throughout the process. The community does not necessarily have to initiate and manage the development process, or build the homes themselves, though some may do.
2. The local community group or organisation owns, manages or stewards the homes and in a manner of their choosing.
3. A requirement that the benefits to the local area or specified community must be clearly defined and legally protected in perpetuity, e.g. through an asset lock.

(Community-led Housing Toolkit, no date)

This definition is broad enough to encompass a range of housing developments, but draws out important differences between itself and mainstream housing provision. Importantly, it challenges the idea of housing as assets and of inhabitants (whether owner-occupiers or renters) as consumers. CLH places a greater emphasis on the active participation of residents in addressing their own housing requirements and the wider – geographically and temporally – positive impacts such developments can bring. Additionally, CLH falls outside of the mainstream market-driven housing sector, removing or significantly reducing the need for profit which is associated with more mainstream developer-led housing delivery.

1.2 Health lens

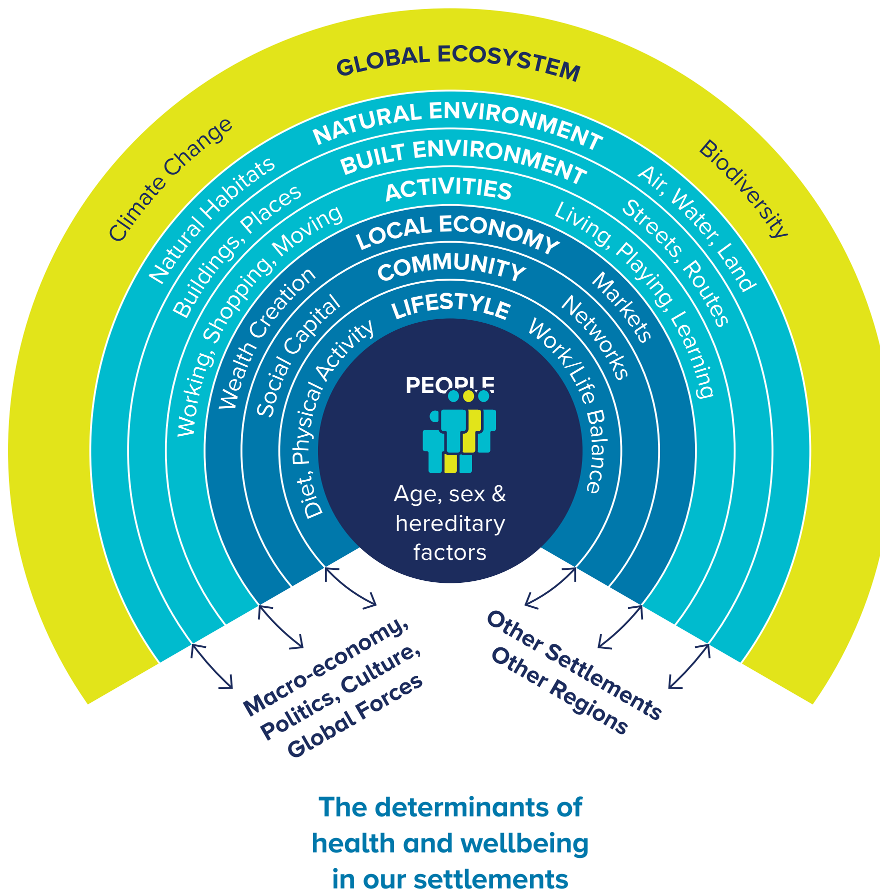
The relationship between urban planning, housing and health has received attention in academic and non-academic contexts. The environment in which we live has a significant impact on our health and wellbeing (Barton and Grant, 2006; Grant, 2017; Ridgley, 2019) and there is growing recognition of the need for joined-up approaches in tackling inequalities (Sallis et al., 2016; Carmichael, 2019). Ige et al. (2018) reported a range of ways in which the built environment is known to impact on health. The design of buildings and spaces is shown to impact physical health directly, while housing affordability is demonstrated to link to health inequalities more broadly. The disciplines of health, housing and planning arguably share many of the same objectives and could work collaboratively to respond to global and local challenges. While the relationship between health, housing and planning has been examined in depth, the role of CLH in supporting these relationships is less well understood.

Greater recognition of the relationship between health, housing, and planning is reflected in the Determinants of Health (Marmot and Wilkinson, 2006, following Dahlgren and Whitehead (1991)). Health is determined by a complex interaction between the genes we are born with, lifestyle choices we make and the physical, social and economic environment we live in. It is estimated that we spend 90 per cent of our time indoors, making housing a particularly key determinant of health (Klepeis et al., 2001). Housing conditions can influence our physical health. For example, a warm and dry house can improve general health outcomes and specifically reduce respiratory conditions. However, housing also has a huge influence on our mental health and wellbeing (Pinto et al., 2017). Physical aspects (light, temperature, ventilation, noise, hazards) and also psychosocial aspects (affordability, running costs, security, age- and disability-friendly, connection to community and local facilitates, how they promote physical activity and healthy diets) are all important. These wider determinants of health are vital in ensuring a healthy population and cannot be managed within the healthcare system alone.

Barton and Grant's (2006) 'health map', Pinto et al.'s (2017) 'spatial planning for health', and The Place Alliance's (2019) 'ladder of place quality' are frameworks that reflect or relate to the 'determinants of health'. These frameworks and resources are designed to support the integration or assessment of health considerations in planning practice. For the purpose of this review we have adopted Barton and Grant's (2006) 'health map' as a framing device. It provides a simple way to express and analyse the social determinants of health (as discussed above). This framework is frequently used in planning and public health literature as well as in academic and policy documents. (Powell et al., 2008; Goodman, 2015; City of Cardiff Council, 2017)

Barton and Grant's (2006) framework was developed with the intention of integrating health literature into planning, urban design and ecology disciplines, and encouraging interdisciplinary partnerships. Whilst sharing many similarities with Dahlgren and Whitehead's (1991) model, Barton and Grant have drawn out further distinctions within physical environments, social environments and economics. Their health map helps distinguish the range of factors that influence health outcomes, from personal lifestyle to environmental impacts on biodiversity and climate change, and encourages a more holistic approach to thinking about our built environment.

Figure 1: Health map – Barton and Grant, 2006



The different spheres within the health map:

- **People** – defining information, e.g. genetics or demographics.
- **Lifestyle** – individual behaviours and personal health.
- **Community** – the networks that people are involved in or connected to. How people feel connected to each other both individually and collectively.
- **Local economy** – includes individual wealth as well as private and public sector and markets. Additionally, Barton and Grant (2006) draw attention to the role of voluntary and informal sectors in local economies.
- **Activities** – relates to social and personal activities but also the production and movement of services and provisions. Barton and Grant (2006) emphasis how these can have a direct impact on health and wellbeing, e.g. access to energy or food.

- **Built environment** – has a direct and indirect impact on the other spheres. Housing availability or quality may directly impact on health and wellbeing, e.g. walkability or comfort and warmth. Additionally, the built environment has more indirect relationships with climate conditions and biodiversity, natural resource management or depletion of the outer spheres.
- **Natural environment** – refers to the ecosystems which sustain life. This sphere relates to the idea that the built environment should aim to reduce or prevent harm to natural environment but there is also a direct health focus, e.g. quality of air and water.

Barton and Grant (2006, p. 346) describe how the diagram may be used to 'examine the interplay of spheres'. It is the interplay between the spheres which is most useful in this research in seeking to understand relationships between CLH and health and wellbeing.

2. Methodology

The following questions guide the review, to provide a detailed account of how the relationship between community-led housing (CLH) and health is documented in existing literature:

What are the connections between CLH and health and wellbeing?

– What is the effect of CLH on health and wellbeing?
– How does the relative affordability of CLH relate to health and wellbeing outcomes?
– Does CLH tend to deliver housing that is more supportive of good health and wellbeing for its occupants?
– Does CLH provide any health and wellbeing benefits to the wider neighbourhood or local area?

The research was conducted through a systematic review of evidence. Systematic reviews require a detailed interrogation of literature relating to a specific topic (Petticrew and Roberts, 2006), following a thorough process of identifying, screening and synthesising available evidence.

No ethical approval was sought or required as all papers are available in the public domain.

2.1 Eligibility criteria

We used the Populations, Exposure and Outcomes (PEOs) (Khan et al., 2003) framework to inform the inclusion and exclusion criteria of the studies. The PEO framework is helpful in setting out the topic, stakeholders of interest, and what the review aims to understand at the beginning of the review process.

Population

The population element includes evidence in the sources related to people involved in or affected by CLH. This included stakeholders: residents, prospective residents, board members and/or the local community. We did not include literature on informal settled or travelling communities.

Exposure

The exposure element referred to CLH. We adopted, but were not limited to, the definition as agreed by the CLH sector (for definition see page 5).

Outcome

The outcome element focused on the interventions and impact of CLH on health and wellbeing. This was organised in two clusters of search terms. Cluster one included terms relating to: physical health, mental health, wellbeing, quality of life, empowerment, health equality. Cluster two included terms: improve, change, effect, benefit, impact, intervention, outcome.

Additionally, we considered including a range of secondary outcomes in the search terms, which could have been used to gain additional depth if our initial search process had needed further refining. These secondary outcomes included terms such as walking, cycling, traffic, air quality, noise, light and ventilation. As the review identified a limited number of sources relating to physical health we decided not to apply this secondary level of search terms.

2.2 Search strategy

To ensure we searched for evidence from a broad range of sources the search strategy included grey literature as well as academic databases. We searched eight academic databases and 10 grey literature sources (for full list of included studies see Appendix 1).

To ensure we gathered the most relevant possible range of results we used truncations and wildcards (e.g. asterisks *) as well as and Boolean terms 'AND' and 'OR'.

Our search parameters were limited to studies conducted between 2009 and 2019. We also limited our search to studies from OECD countries, reported on in English. These parameters were set to ensure we reviewed the most relevant literature. To ensure we did not miss key papers we also used a snowballing technique, which involves scanning the reference list of included papers to check for any relevant sources that may have been overlooked.

We reached our final papers for review through:

- searching sources
- identifying papers
- scanning titles
- screening abstracts
- snowballing
- eligibility form (see Appendix 2)
- inclusion.

2.3 Data collection

The bibliographies of all potentially relevant sources were exported to referencing software 'Zotero' where we removed any duplicates. We scanned titles and removed any that clearly did not relate to CLH.

An eligibility form was completed for each of the remaining papers (see Appendix 2 for sample form). A selection of potential papers was distributed to a second reviewer to ensure consistency and accuracy in the selection process.

Given the largely qualitative nature of the studies included in this review we did not apply a strict quality assessment framework, as indicators such as 'sample size' would not have been a relevant consideration to the methodological approach of these papers. However, we have only included academic studies from peer reviewed journals – which therefore will have been through a rigorous process of quality assurance and revision – and grey literature from well recognised and regularly cited sources. The lack of large-scale research focusing on community-led housing and health means that findings have been extracted from papers which did not present this as their first or main contribution; applying the same models of quality assessment which would be employed in systematic reviews of literature in areas with a larger quantity of mixed methods research did not seem appropriate.

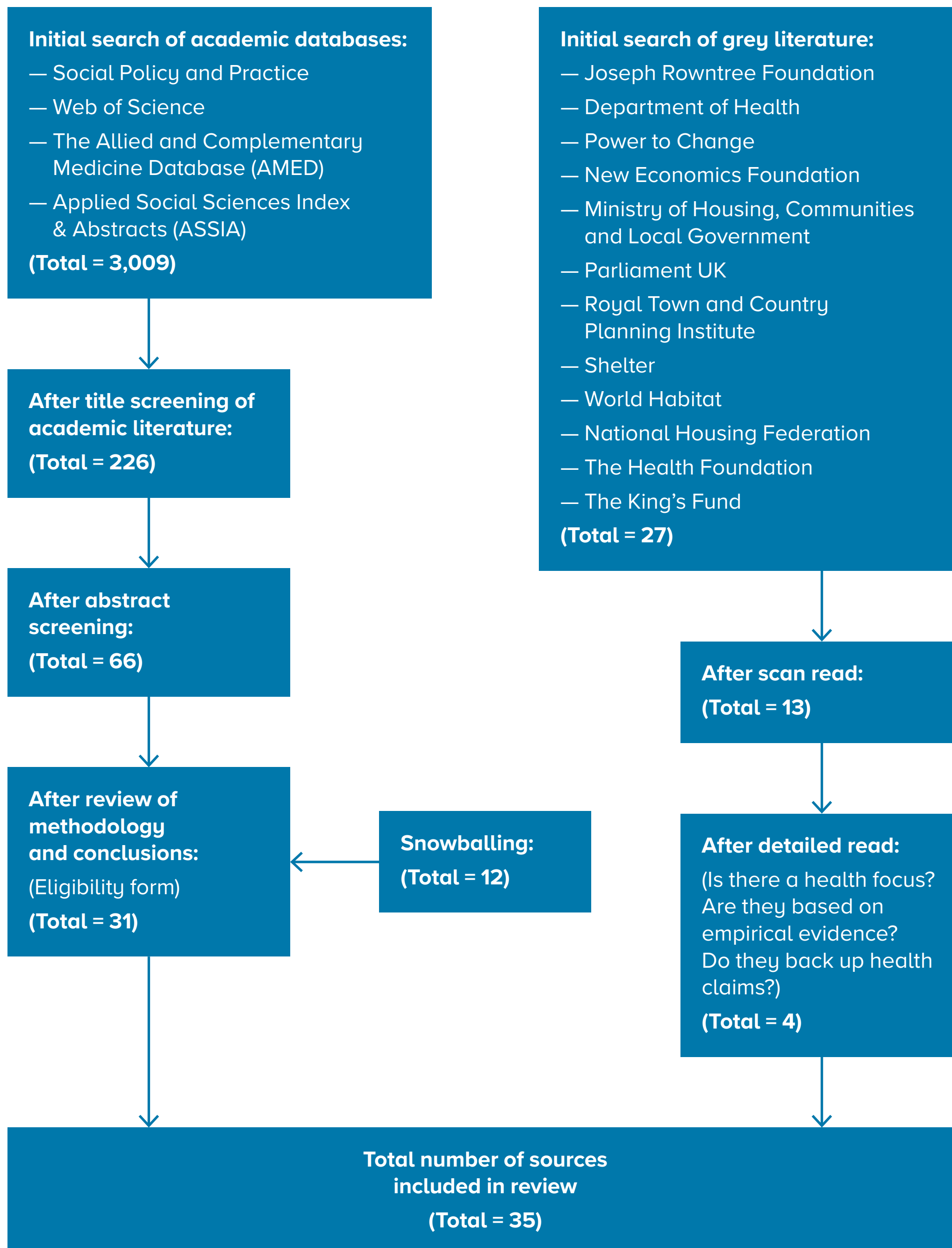
2.4 Seminar

In August 2019 we hosted a half-day seminar for people interested in CLH, to showcase and debate this review. Twenty-two people attended including CLH professionals, CLH project members, public health practitioners and academic staff. We used the first half of the seminar to frame CLH within public health agendas, provide some international examples of how CLH might be seen to improve or promote quality of life, and present the initial findings from this review. This aimed to ensure that all participants had a shared understanding of both aspects of the work so that they could engage fully in the second part of the event. In the second half we asked questions structured around the themes arising from the literature. We asked participants to reflect on their experience of CLH and to share how they felt future research could build upon or contribute to each of the themes. As well as ensuring we had not missed any vital pieces of literature, this deepened our understanding of the diverse interpretation of these issues and identified further areas which need to be researched in greater depth.

In presenting the findings we have also captured some of the reflections from the seminar. These are presented in blue boxes throughout the report.

2.5 Selection process

Figure 2: Flow of selection process



2.6 Limitations of the review

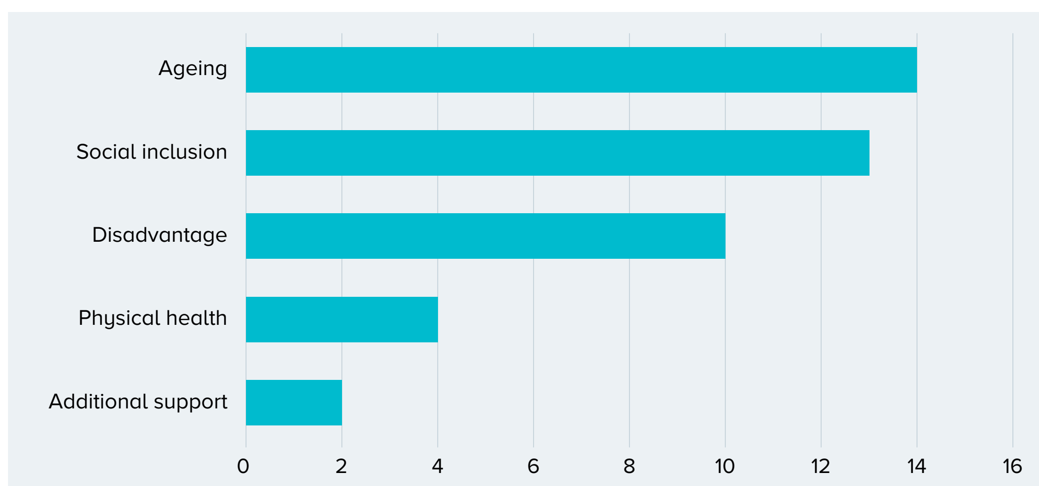
Our review was limited to papers published in English language. It is possible that there were papers published in other languages that may have contributed to this review. While a second reviewer screened a sample of papers, the majority of the review selection process was conducted by one reviewer. Designing an eligibility form helped to ensure consistency within the selection process.

3. Findings

3.1 Introduction to findings

The following section presents the findings of the studies included in the review. The findings are organised around five thematic clusters. These clusters emerged from the content of the studies. Key topics were identified in each paper, these were then refined to key words which were in turn collated around shared meaning into the clusters presented below.

Figure 3: Thematic distribution of papers



For each cluster we begin with a key statement which is followed by a discussion of relevant evidence. It is important to note that these clusters do not exist in silos but, for the purpose of developing an evidence base and identifying gaps in knowledge, it has been helpful to draw some thematic distinctions. Additionally, common concepts arise across multiple clusters, such as affordability, equitability and empowerment. To a certain extent this is unsurprising, as these three notions are intrinsic within of the definition of and rationale for community led housing, as discussed in Section 1. Due to the lack of large-scale systematic databases of research evidence we have included studies that demonstrate associations between CLH and health as well as those that draw explicit links. The majority of the academic literature cited in this review is based on small-scale case study research and this review not only begins to identify some of the wider themes emerging from this, but also where the gaps in knowledge remain.

3.2 Characteristics of reviewed sources

The following figures provide an overview of the characteristics of the sources we reviewed – the geographical distribution of studies, chosen methodology and model of CLH studied. As expected, the United Kingdom (UK) and United States (US) were the most common geographical locations. Single and multiple case studies were the more frequently used methodology, and cohousing was the most studied model.

Figure 4: Geographical distribution of sources

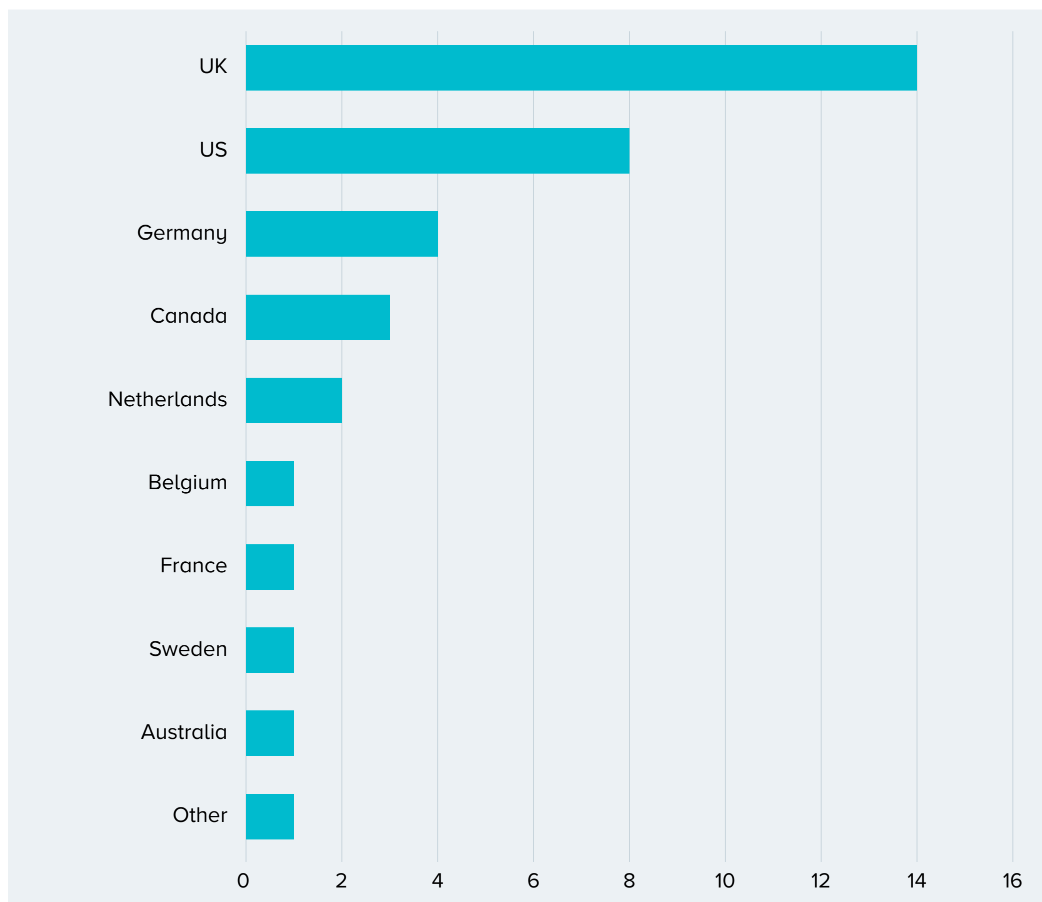
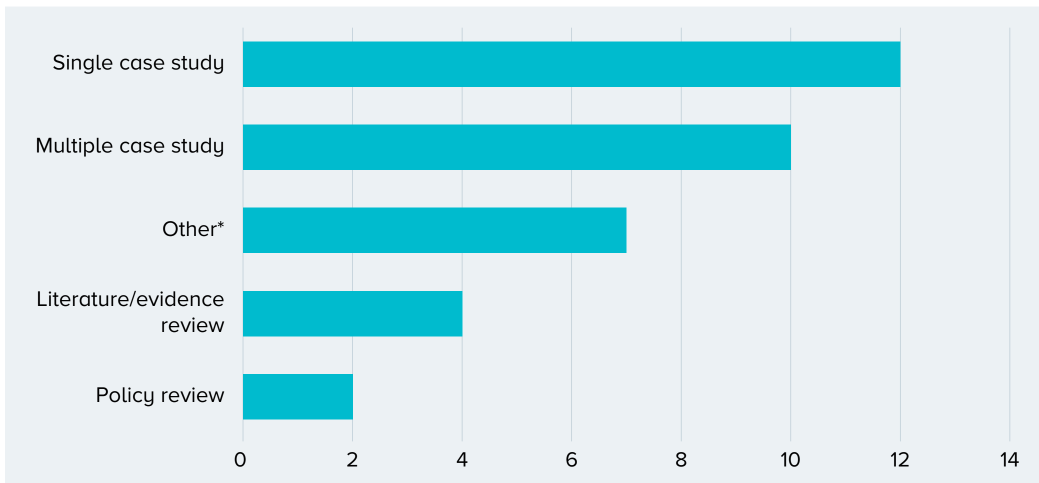
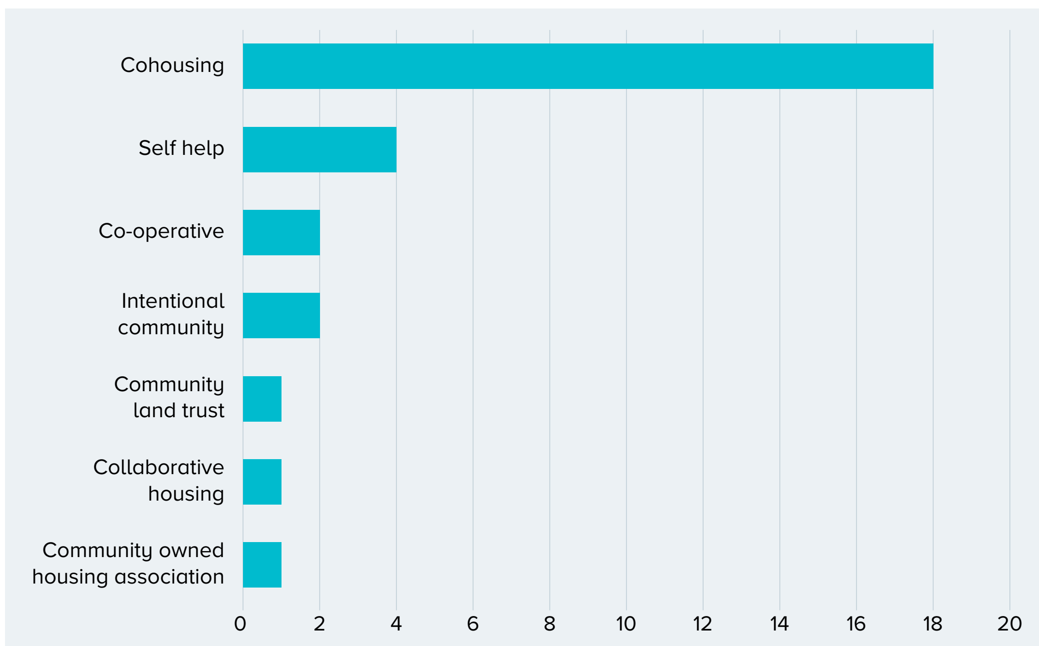


Figure 5: Methodological distribution of sources



* Other includes: ethnography, briefing paper, report, blog

Figure 6: Distribution of models of CLH in the included studies



You can find further details about each of the studies referenced in the following section – e.g. methods used, countries of study – in Appendix 1.

3.3 Findings

3.3.1 CLH supports healthy ageing

A key theme within the literature is supporting healthy ageing. Fifteen of the reviewed papers focus specifically on older people, elder CLH, or 'ageing in place' (Howden-Chapman et al., 1999). All of these suggest that living in community positively impacts on inhabitants' quality of life. Within health and social care, as well as further afield, there has been increased attention on methods of supporting a health and wellbeing agenda for an ageing population. This is demonstrated in the report on how collaborative health and housing provisions may support healthy ageing, where Stevens (2016, p. 5) suggests that 'growing pressures on the health service caused by our ageing population ... are demanding a substantial and holistic response'. The majority of the literature on CLH and ageing reviewed focuses on how CLH may:

– reduce health and social care costs associated with ageing
– improve health and wellbeing in older people or reduce the impact of declining health

Additionally, a small body of literature discusses the wider benefits of designing communities with older people in mind, such as adapting physical design features to ensure they are accessible throughout the ageing process (Glass, 2013; 2016).

People living longer inevitably places additional financial pressure on health and social care services (Labit, 2015; Glass, 2016; Labit and Dubost, 2016; Stevens, 2016). Additionally, many individuals or their families face financial burdens associated with care and support. Labit and Dubost (2016) argue that the improvements in quality of life achieved through community intergenerational housing projects in France and Germany reduced health and social care costs both to individuals and the state. Cohousing has been suggested to support ageing in place, delaying or mitigating the need for people to move into care homes (Kehl and Then, 2013; Wardle, 2013a; Lubik and Kosatsky, 2019). Barton and Grant's (2006) health map identifies income and finances as key factors in health inequalities. Reducing the financial costs of care on individuals and local government may have individual and public benefits and assist in reducing finance-related health disparities, such as accessing quality and appropriate care and support in a suitable location.

Shared living spaces facilitate social support, reducing feelings of loneliness and isolation. The potential for CLH to mitigate social isolation in older age was documented in many of the studies we reviewed. Several studies identified direct links between social isolation and cognitive health (Cromwell and Waite, 2009; Glass, 2013; DiNapoli, Wu and Scogin, 2014). Glass (2013) highlights how social isolation in older people not only impacts on the individual but also on their families and wider health systems. Glass's research with cohousing communities for older people in the US concluded that while many of the residents interviewed were at risk of social isolation – defined as a lack of friend or family ties – none of the residents reported feeling isolated. This contrasts with prevailing trends in the wider population (Campaign to End Loneliness, Age UK, 2019). Additionally, grey literature sources identified scope for cohousing to reduce loneliness in older populations (Joseph Rowntree Foundation, 2013).

Literature on CLH and health also highlights further benefits in how living collectively may positively influence residents' physical experience of ageing. Kehl and Then (2013) found only 16 per cent of residents over 50 years old living in an intergenerational community needed outside care, compared to 33 per cent in the control group not living in a formal community housing project. Wardle's (2013a) review of literature reports how CLH may delay the need for professional care by up to 10 years.[1] Glass (2013) reported that 90 per cent of people living in the case study community self-reported to be in good to excellent health, despite a national average prevalence of common health conditions. This interesting finding suggests that while residents may experience age-related health deterioration, this did not simultaneously lead to an equal decline in their perceived quality of life.

In terms of mechanisms, literature on CLH and ageing did not look specifically at tenure and funding models, especially with regard to affordability. We found that cohousing was the delivery model in all but one of the studies on healthy ageing and CLH we reviewed. One study was of ageing in an intentional community.[2] Of the 15 papers reviewed in this section the majority of UK and US case studies were privately owned or rented (Glass, 2013; Coele, 2014; Devlin et al., 2015), although some case studies speculated on the future involvement of housing associations. Case studies from Germany and Sweden tended to be funded through a co-operative or municipal model (Kehl and Then, 2013; Labit, 2015).

[1] Professional care was documented as either an external carer visiting the resident in their home or the CLH resident needing to move into a care home environment

[2] Intentional community refers to a collection of people who choose to live together. Intentionally, communities commonly organise around shared values or interests (for further information see Foundation for Intentional Community, **www.ic.org)**

Table 1: Sources relating to CLH and ageing, and the associated health outcomes

Reference	CLH model	Type of study	Health outcomes
Coele (2014)	Cohousing	Auto-ethnography	Ability to maintain independence
Devlin et al. (2015)	Cohousing	Case study with architects, residents and housing association staff	Opportunities for residents to have a strong voice in the development process
Elias and Cook (2016)	Intentional community	Case study involving interviews with residents and participant observations	Residents report significant benefits from increased social interaction
Fernandez, Scanlon, West (2018)	Cohousing	Report based on workshops and research reflections	Physical and mental wellbeing of older people may be improved by being involved in cohousing communities Need for more research into scope for tackling loneliness and improving physical health
Glass (2013)	Cohousing	Case study involving interview with residents	Improved social connections Maintained independence and reduced need for external care
Glass (2016)	Cohousing	Multiple case study involving interviews with residents	Self-reported high levels of physical and mental health High reported levels of social cohesion and informal or peer to peer support
Joseph Rowntree Foundation (2013)	Cohousing	Evidence report	Cohousing supports the development of social capital and helps create and maintain a sense of community
Kehl and Then (2013)	Cohousing	Multiple case study involving interviews and survey with residents	Reduced need for outside care Increased social cohesion
Labit (2015)	Cohousing	Multiple case study involving interviews and observations with residents	Strong sense of solidarity Self-reported healthy ageing

Reference	CLH model	Type of study	Health outcomes
Labit and Dubost (2016)	Cohousing	Multiple case study involving interviews	Older people received care and felt more secure in their homes Younger residents had access to affordable housing
Lubik and Kosatsky (2019)	Co-operative and cohousing	Commentary paper	N/A
Scanlon and Fernandez-Arrigoitia (2015)	Cohousing	Case study involving interviews with residents and housing association staff	Increased social connections and mutual support Increased sense of agency after one year of living in community
Stevens (2016)	CLH report	Evidence report	CLH for older people is increasingly more than housing alone – rather about creating supporting communities
Wardle (2013a)	Cohousing	Evidence report	Opportunities for increased socialisation and friendships

3.3.2 CLH promotes social inclusion

Social capital[3] is one of Barton and Grant's (2006, p. 349) health map spheres, which they recognise as significant for 'individual and societal well-being'. The social benefits of CLH were documented in 13 of the studies included in this review. In addition to the relationship between CLH, social inclusion and ageing, the literature highlighted more generalised links between CLH and increased social capital. Ruiu (2016) suggested that social capital led to increased feelings of belonging and resident stability and that being involved in developing a CLH project, and in some instances the day-to-day running of the community, were important for social cohesion and capital building. Support with day-to-day tasks such as cooking, informal childcare co-operatives and gardening, provided increased social capital (Garciano, 2011). The sharing of responsibilities and resources in cohousing communities contributed to what Jarvis (2015) identified as group solidarity and support. Lang and Novy (2014) examined social cohesion within a large professional housing co-operative in Austria, reporting how residents experienced increased autonomy and social cohesion.

[3] Social capital refers to the activities, participation and networks within and between groups or communities (Putnam, 2000). For a detailed discussion on social capital in the context of CLH see Ruiu (2016).

Sanguinetti (2014) conducted a large-scale survey of cohousing residents in the US, concluding that residents had a strong connection to their communities. Additionally, this survey reported how residents who have access to productive green space expressed feeling a strong connection to nature. Sanguinetti (2014) argued that connection to other residents and to nature resulted in improved wellbeing of residents. In addition to social capital this study links to Barton and Grant's 'built environment' sphere, demonstrating how the design of places and spaces that people inhabit affects health and wellbeing. In this case, resident access to green space may be seen to impact, either directly or indirectly, health and wellbeing.

The papers identified in this section have less explicit links to positive health outcomes than with research which focused on healthy aging. However, the positive benefits identified – social cohesion and inclusion – are a necessary basis for the establishment of healthy communities, as identified in Barton and Grant's (2006) health map. This is discussed further in Section 3.4.

Table 2: Sources relating to CLH and social inclusion, and the associated health outcomes

Reference	CLH model	Key terms used	Health outcomes
Coele (2014)	**Cohousing**	Social credit Social capital	Ability to maintain independence
Czischke and Huisman (2018)	**Collaborative housing**	Social connections Social bonds Social bridges Social links	Migrant residents experience social integration and support
Elias and Cook (2016)	**Intentional community**	Social ties Social capital	Residents report significant benefits from increased social interaction
Garciano (2011)	**Cohousing**	Mutual support Natural connection	Improved relationship to food and healthy eating
Javis (2015)	**Cohousing**	Social architecture Solidarity	Empowerment or increased engagement in governance of home Social cohesion and support networks
Kehl and Then (2013)	**Cohousing**	Social inclusion and activity	Reduced need for outside care Increased social cohesion

Reference	CLH model	Key terms used	Health outcomes
Lang and Novy (2014)	**Co-operative**	Social cohesion Social capital	Professional co-operative structures give residents a voice and improve social cohesion
Lubik and Kosatsky (2019)	**Co-operative and Cohousing**	Social inclusion	Commentary
Markle et al. (2015)	**Cohousing**	Social support Social capital Social sustainability Social wellbeing	Residents care and received more social support than non-residents
Ruiu (2016)	**Cohousing**	Social capital	Resident stability Sense of belonging Social cohesion and capital building Building social capital with public sector and not for profit organisations
Sanguinetti (2014)	**Cohousing**	Pro-social behaviour Connection to community	Cohousing residents reported higher levels of social connectedness and connection to community and nature
Tummers (2016)	**Cohousing**	N/A	N/A

3.3.3 CLH may lead to improved physical health

In the studies we reviewed, the relationship between CLH and physical health was expressed through healthy eating behaviours and increased physical activity. There was a limited number of studies (n=4) that referenced a relationship between CLH and physical health benefits. These studies referenced physical health benefits from living in an established CLH project and from being involved in the development process. The latter relates specifically to self-build and self-finish models. Glass (2013) reported an increase in physical activity as a result of residents mutually encouraging each other to exercise. Theriault et al. (2010), Garciano (2011), and Community Self Build Agency (CBSA) and the University of the West of England (UWE) (2016) all suggested that living in a CLH project contributed towards improved relationships to food and healthier eating habits, represented in Barton and Grant's (2006) health map as the 'lifestyle' sphere.

The participants reported that their involvement in the project led to them collectively cooking and eating more nutritious meals. Additionally, in the CSBA and UWE's (2016) study of a community self-build project, the residents reported increased levels of physical fitness as a result of the labour involved in constructing their homes.

We found that the studies specifically referencing physical health benefits also focused on care-giving and support either through cohousing models for older people or self-help models for people experiencing homelessness. Despite increased or improved access to green space being anecdotally cited as a benefit of CLH development (Cohousing Projects, no date; TOWN, 2019) we found no studies that directly related this to health improvements.

Table 3: Sources relating to CLH and physical health

Reference	CLH model	Type of study	Health outcomes
CSBA and University of the West of England (2016)	**Self-help housing**	Case study involving interviews with residents	Improved diet Improved physical fitness Improved sleep Social integration (these were only reported during the self-build process and do not necessarily reflect experiences once the build process was complete)
Garciano (2011)	**Cohousing**	Case study involving interviews with architects and developers	Improved diet and relationship to food
Glass (2013)	**Cohousing**	Case study involving interviews and survey with residents	Physical exercise encouraged through peer support
Theriaut et al. (2010)	**Cohousing**	Multiple case study involving interviews and questionnaire	Improved diet and relationship to food

3.3.4 CLH can support people who are disadvantaged

Six papers identified the potential for CLH to promote supportive environments for people who may experience some level of disadvantage. Literature on CLH and ageing often cited benefits to residents who faced health or social challenge, however this section looks at studies on CLH projects that focused specifically on supporting or working in collaboration with people who have specific needs. These communities included:

- people in precarious or poor housing conditions
- people whose health and wellbeing has been or is affected by homelessness
- people who may experience marginalisation due to being asylum seekers or refugees

Seminar insight

A discussion topic arising from the seminar was the potential for CLH communities to engage more actively with social prescribing[4] healthcare professionals. There was consensus between health and housing professionals that CLH could provide useful therapeutic services which align with a shift in public health towards social prescribing. This may require a more formalised and potentially scaled-up process by which communities which currently provide, or aspire to provide, therapeutic services receive formal support (financial or other).

There are assumptions that CLH is an affordable model of housing which may be delivered in a number of ways. Self-build and self-help housing aims at reducing the costs of external builders and contractors, whilst co-operative or community land trusts may cross-subsidise, acquire funds or grants as organisations rather than individuals, or partner with housing associations or local authorities.

Rosenberg (2011) conducted a study of a community-owned housing association in the UK, reporting that increased resident control led to improved individual and collective wellbeing. Ruiu (2015) studied a UK cohousing scheme, 50 per cent of which was social rented housing. Ruiu reported how collaborating with a housing association and self-building were key in enabling high levels of affordable social housing. Additionally, this study found that residents involved in developing the community experienced a strong sense of belonging. Moore and McKee (2012) examined the scope for community land trusts (CLTs) to empower residents in

4 Social prescribing aims to address health needs in a holistic way by enabling health practitioners to refer people to local, non-clinical services

Scotland, England and the US. Affordability, both in the development process and in the future of the project, was a key condition in assessing empowerment. Their study identified mechanisms through which CLTs seek to maintain affordability – e.g. capping the percentage of equity that may be sold, restricting resale values, including covenants such as a requirement to have a local connection. However, Moore and McKee acknowledge that as the CLT movement grows, especially in the UK, there is a need for careful negotiation of the governance structures and that there is little known about the demographics of people living in CLTs.

Additionally, the relationship between CLH and affordability was documented in non-academic sources. The New Economics Foundation present a collection of affordable CLH case studies (New Economics Foundation, 2018). These highlight how CLH may generate economic benefits for individuals and the public sector. Affordability, in the form of lower rent or mortgage payments was evidenced to enable individuals to build personal wealth. Additionally, these case studies highlighted fiscal benefits, suggesting that increased affordability through CLH reduced the number of tenants claiming housing benefits.

There is also a small but impactful collection of studies that examine the benefits of self-help housing. Self-help housing 'involves groups of local people bringing back into use empty properties that are in limbo, awaiting decisions about their future use or their redevelopment' (Self-Help-Housing.Org, 2019). Mullins (2018, p. 150) suggests that self-help housing communities can significantly impact on health and wellbeing by proposing solutions 'to a wide range of wicked problems including providing decent affordable homes for ex-offenders and people with mental health needs'. Mullins's policy review also identifies how involvement in self-help communities may provide pathways into paid employment. Archer (2009) proposes that self-help projects should be recognised for their ability to support empowerment and promote social cohesion.

Similarly, there have been a small number of studies looking at collective self-build communities. Heslop (2017) reported on 'Protohome', a temporary housing project in the UK built through a collaboration between architects, the charity Crisis, and its members experiencing or at risk of homelessness. Heslop suggested that the project not only demonstrated potential to improve quality of life for Crisis members, but also to 'generate quantifiable long-term savings in welfare spending (getting people into work and off benefits, improving health and wellbeing), and create sustainable and affordable housing typologies in a time of 'housing crisis' (2017, p. 113). Research conducted by the University of the West of England on behalf of the CSBA (UWE and CBSA, 2016) evaluated a project supporting homeless ex-service personnel to self-build their own homes. The findings suggested that the self-build project positively impacted on the participants' mental and physical health. Participants reported improvements

to their diet due to cooking and eating collectively, increased physical exercise and better sleep. Additionally, the research reported on how the community self-build process supported social integration, which led some participants to reconnect with estranged family members and friends. This project links to a number of spheres from Barton and Grant's (2006) health map. The residents reported improvements that align with 'lifestyle', 'social cohesion' and 'activities' spheres.

In the Czischke and Huisman (2018) study, a CLH project provided homes for 565 refugee and Dutch people between the ages of 18 and 27. The young people lived communally with private bedrooms and communal kitchen and social spaces. The study reported 'the gradual formation of social connections such as social bonds, social bridges and social links' (2018, p. 156). Living in the CLH project provided Dutch and refugee residents with access to education, employment opportunities and social connection. The findings suggest that the housing project is successful in supporting the integration of refugees into Dutch society.

Table 4: Sources relating to CLH and tackling disadvantage, and the associated health outcomes

Reference	CLH model	Groups supported	Health outcomes
Archer (2009)	**Self-help housing**	N/A	Briefing paper
CSBA and University of the West of England (2016)	**Self-help housing**	Veterans who were homeless or at risk of homelessness	Improved diet during self-build process Social integration with other self-builders Sense of learning or achievement Majority of participants remained in drug recovery during the case study
Czischke and Huisman (2018)	**Collaborative housing**	Refugee and asylum seekers, and young Dutch people	Migrant residents experience social integration and support

Reference	CLH model	Groups supported	Health outcomes
Heslop (2017)	**Self-help housing**	People experiencing homelessness	Participant empowerment and confidence building Increased social cohesion
Moore and McKee (2012)	**Community land trust**	N/A	Policy and literature review
Mullins (2018)	**Self-help housing**	N/A	Policy review
Netto et al. (2015)	**Community-led housing** **Community self-build housing**	N/A	Literature review
Rosenberg (2011)	**Community-owned housing association**	People in need of affordable social rented housing	Residents reported higher levels of social connectedness than reported in comparative area Resident control is argued to improve individual and collective wellbeing
Ruiu (2015)	**Cohousing**	People in need of affordable social rented housing	High levels of affordable housing Self-build process built strong sense of belonging

3.3.5 CLH can provide additional support for those who need it to live independently

Closely linked to the previous theme, this section highlights findings from two papers which suggest that CLH can support independent living for people who need additional support. This includes:

– people with physical or learning disabilities

– people who have engaged with residential mental health services.

A study of an intentional community, developed to support people with intellectual disabilities, suggested that more egalitarian and less hierarchical structures of care giving and receiving contributed to improved quality of life of people living within the community (Randell and Cumella, 2009). Additionally, Randell and Cumella (2009, p. 724) reported how high levels of social integration, a clear sense of belonging, and opportunities for meaningful employment contributed towards residents feeling a 'sense of being a useful member of a community that responds to their needs'.

Seminar insight:

One topic discussed in the seminar was how support communities may lose financial support for formal care provisions because the informal support provided through the community is deemed to be an adequate care replacement.

Carpenter-Song et al. (2012) conducted an interesting study on a mental health recovery community in the US. The recovery community had many attributes of a CLH project, including shared spaces and resident meetings to discuss day to day management of the project. The housing units were owned by a not-for-profit mental health service agency, but the majority of the management was conducted by the residents and the two members of staff allocated to each community. The community offered peer to peer support as well as providing a safe space for residents to access professional mental health and substance abuse services. The findings from this study suggested that living collectively and intentionally was a key element of successful recovery. Further investigation into the intersections between intentional recovery communities and CLH models may present opportunities for greater collaboration between the sectors and support better outcomes for residents and developing groups.

Table 5: Sources relating to CLH and supported independent living, and the associated health outcomes

Reference	CLH model	Groups supported	Health outcomes
Carpenter-Song et al. (2012)	Intentional community	People experiencing severe or complex mental health challenges	Social and physical environment identified as key in supporting recovery Services being delivered within the community also believed to be key to success
Randell and Cumella (2009)	Intentional community	People with learning disabilities	Social integration High sense of belonging Opportunities for meaningful employment

3.4 Linking community-led housing and health

The aim of this review was to examine the evidence on the relationships between CLH and health. The findings demonstrate an emerging picture of links between the qualities distinct to CLH and health and wellbeing outcomes. We found that while studies evidence social, physical and mental benefits of CLH models these were not commonly claimed as 'health' benefits or framed as part of a public health agenda. Literature on ageing and CLH makes more concrete health benefits claims, partially because cohousing for older people has received attention from disciplines that focus on health including occupational therapy, gerontology and social care.

Barton and Grant's (2006) health map visually documents the elements of the social, built and natural environment that impact on people's health. It demonstrates how these different layers are both important within themselves, but also interdependent – a positive change in one area may be hampered or undermined by the lack of change or retrogressive action of a different aspect. The studies included in this review make a strong link between CLH and Barton and Grant's 'social capital' and 'built environment' spheres. Much of the literature drew links between living in community and social inclusion, cohesion and capital. This link was particularly clear in the literature on CLH and ageing and CLH and supported housing.

There was also a relationship between CLH and the 'built environment' sphere. The scope for CLH to contribute toward tackling housing shortage was documented – specifically, to deliver the right type of housing including affordable, supported or intergeneration communities.

A small collection of studies highlighted how CLH may contribute to Barton and Grant's (2006) 'activities' sphere, such as food growing and healthy eating behaviours. Collectively, the provision of affordable or supported housing, access to healthy food and improved social integration directly impacted the 'lifestyle' sphere in a number of studies. Maintaining independence, recovery from poor mental health or alcohol and substance addiction were documented in this review. These forms of CLH – such as supported communities, recovery communities, community land trusts and self-help communities – present an exciting departure from more traditional stereotypes of CLH as niche or reliant on significant personal wealth.

The area of local economy is notably absent from the literature, and there is clear scope to investigate the inter-connections here more fully, especially given the recent work on community business and health that highlighted multiple ways in which community business impact on people's physical and social wellbeing (Power to Change, 2019).

Seminar insight:

There was a discussion on how securing land was a barrier to CLH developments and, more specifically, to providing affordable or specific support communities. One interesting reflection was about developing a strong health and wellbeing evidence base, so the CLH sector could make a case for acquiring NHS land which is earmarked for disposal. Seminar delegates discussed scope to reframe 'surplus' land to be 'repurposed' to provide therapeutic or supportive services within community housing schemes. While outside the remit of this review, there was consensus that this proposition would benefit from further discussion. Future research could look at it in light of the literature on asset transfer (Findlay-King et al., 2018).

4. Conclusions

This review identified a range of ways that CLH supports a health and wellbeing agenda, including:

– building socially cohesive communities
– benefiting older people, either through elder or intentionally intergenerational communities
– increased physical activities and healthier eating habits.

There is a strong evidence base for CLH to contribute to affordable housing stock. To date, the health and wellbeing benefits of community-led affordable housing provisions have focused mainly on people with specific needs or housing requirements, such as homeless provisions or recovery communities. However, Barton and Grant's (2006) health map identifies housing affordability as part of the 'built environment' sphere which directly links to human health and wellbeing. Although the research is not strictly conclusive, it is highly plausible that these benefits extend into wider populations.

We only found two studies that drew comparisons between CLH and non-community housing (Glass, 2013, and Kehl and Then, 2013). Both related to older people's cohousing. While this was not sufficient to draw any positive conclusion that CLH is more supportive of health and wellbeing, future research could look for more evidence.

We did not find any clear evidence of the benefits of CLH extending beyond the physical communities themselves. Although future research could demonstrate this – for example, where homeless veterans in CSBA self-build project reconnect with their families – we did not find sufficient evidence in this review to be able to claim a positive correlation.

5. Gaps and future research

The review identified gaps in evidence of the relationship between CLH and health and wellbeing, and future research in five main areas would enhance our understanding.

1. Focusing on CLH models other than cohousing

Relevant literature was heavily weighted toward cohousing. A small number of studies looked at co-operative housing (n=2) and self-help housing (n=4), intentional communities (n=3), community land trusts (n=1) and other CLH models (n=4). Given that the CLT movement is growing and adapting rapidly in the UK, future research is needed to understand the scope and opportunities for this model to contribute to health and wellbeing agendas.

2. Employing a broader range of methods and measures

Research on the relationship between CLH and health and wellbeing is predominantly qualitative. This mirrors Tummers' (2016) findings following a review of the cohousing literature. Additionally, the majority of research uses between one and three case studies. There is a case for larger-scale quantitative research to create a database of evidence of how factors such as diet, social interaction, exercise, green space, reduced stress and other health complaints correlate with (different models of) CLH.

3. Developing stronger evidence about green spaces and environmental standards

Several studies and grey sources cite a high percentage of green space in CLH developments. While we were not looking specifically at design features, we noticed a lack of evidence to support the claims about amount of green space. This lack suggests that future research would help substantiate the claim by drawing links between increased average green space and health and wellbeing benefits. Similar anecdotal claims are made on the environmental quality of CLH projects, which may have a direct or indirect impact on residents' health. Future research could examine the environmental qualities of CLH schemes through a health lens.

4. Greater consideration of CLH as a short- or medium-term housing solution

The CLH sector tends to imagine groups of people being involved in developing long-term communities. However, temporary or short-term communities were important in this review – recovery communities, community housing for refugees and asylum seekers, and temporary communities for people experiencing homelessness are a small but important subsector of CLH which has been significantly under-examined to date.

5. Strengthening the evidence base by integrating health frameworks

Finally, the review demonstrated multiple ways in which CLH may improve health and wellbeing, although the literature rarely claimed this link with confidence. Using Barton and Grant's (2006) health map as a framework has assisted us in making these claims in a more grounded and analytical manner.

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Appendix 1: Table of sources

Reference	Model of CLH	Location	Funding model	Peer reviewed or grey literature	Type of study	Methods	Stakeholders of interest	Health links
Archer (2009)	**Self help**	N/A	N/A	Briefing paper	Briefing paper	Briefing paper	Policymakers	
Carpenter-Song et al. (2012)	**Intentional community**	US	Private non-profit organisation	Peer reviewed	Multiple case study	Focus groups	Residents	Social and physical environment identified as key in supporting recovery Services being delivered within the community also believed to be key to success
Coele (2014)	**Cohousing**	UK	Resident funded	Peer reviewed	Auto-ethnography	Auto-ethnography	One elder resident in community	Ability to maintain independence
CSBA and University of the West of England (2016)	**Self-help housing**	UK	Housing association	Report	Case study	Interviews	Resident self-builders	Improved diet during self-build process Social integration with other self-builders Sense of learning and achievement Majority of participants remained in drug recovery during the case study
Czischke and Huisman (2018)	**Collaborative housing**	Netherlands	Government funded	Peer reviewed	Case study	Interviews Observations	Residents and members of housing cooperation	Migrant residents experience social integration and support
Devlin et al (2015)	**Cohousing**	UK	Resident funded	Peer reviewed	Case study	Architects report and comments from residents	Architects, residents, housing association staff	

Reference	Model of CLH	Location	Funding model	Peer reviewed or grey literature	Type of study	Methods	Stakeholders of interest	Health links
Elias and Cook (2016)	**Intentional community**	Canada	Charity	Peer reviewed	Case study	Interviews with residents and observations	Residents with developmental, physical, cognitive, or mental health needs	Residents report significant benefits from increased social interaction
Fernandez, Scanlon, West (2018)	**Cohousing**	UK	N/A	Report	Workshop and research reflections	Learning day with members of UK cohousing communities	Residents	Physical and mental wellbeing of older people may be improved by being involved in cohousing communities Increased social connections and mutual support Increase sense of agency Need for more research into scope for tackling loneliness and improving physical health
Garciano (2011)	**Cohousing**	US	Private cohousing architect firm and private non-profit developer-rental units	Peer reviewed	Case study	Interviews with developers and architects	Staff	Improved relationship to food and healthy eating
Glass (2013)	**Cohousing**	US	Privately owned and subsidised rented units	Peer reviewed	Case study	Interviews and survey	Residents	Improved social connections Maintained independence and reduced need for external care
Glass (2016)	**Cohousing**	US	Rented units	Peer reviewed	Multiple case study	Interviews	Residents and actively involved local residents	Self-reported high levels of physical and mental health High reported levels of social cohesion and informal or peer to peer support

Reference	Model of CLH	Location	Funding model	Peer reviewed or grey literature	Type of study	Methods	Stakeholders of interest	Health links
Heslop (2017)	**Self-help**	UK	Charity and local government	Peer reviewed	Case study	Interviews and participatory research approach	Self-builders and key support staff	Participant empowerment and confidence building Increased social cohesion
Javis (2015)	**Cohousing**	UK, US, Australia	Unclear	Peer reviewed	Multiple case study	Interviews, oral histories, observations, archival data	Residents	Empowerment and increased engagement in governance of home. Social cohesion and support networks
Joseph Rowntree Foundation (2013)	**Cohousing**	UK	N/A	Grey literature	Report	N/A	Cohousing practitioners, housing professionals, policy makers	Improved physical and mental health, Ability to maintain independence
Kehl and Then (2013)	**Cohousing**	Germany	Privately and publicly funded	Peer reviewed	Multiple case study	Interviews and survey	Residents	Reduced need for outside care Increased social cohesion
Lang and Novy (2014)	**Co-operative**	Austria	Public, private, co-operatively funded	Peer reviewed	Multiple case study	Survey and interviews	Residents, housing managers, policy makers	Professional co-operative structures give residents a voice and improve social cohesion
Labit (2015)	**Cohousing**	Germany, Sweden and England	Germany, Sweden: co-operative and municipal England: privately owner or rented	Peer reviewed	Multiple	Interviews and observations	Residents	Strong sense of solidarity Self-reported healthy ageing

Reference	Model of CLH	Location	Funding model	Peer reviewed or grey literature	Type of study	Methods	Stakeholders of interest	Health links
Labit and Dubost (2016)	**Cohousing**	France and Germany	Private	Peer reviewed	Multiple case study	Interviews	Residents	Older people received care and felt more secure in their homes Younger residents had access to affordable housing
Lubik and Kosatsky (2019)	**Cooperative and cohousing**	Canada	N/A	Peer reviewed	Commentary		Public health practitioners	Collaborative housing can promote social inclusion and lead to higher perceived levels of wellbeing
Markle et al. (2015)	**Cohousing**	US	Shared ownership	Peer reviewed	Case study	Interviews and survey	Residents and people registered as interested in cohousing	Residents care and received more social support than non-residents
Moore and McKee (2012)	**Community land trust**	UK and US	Housing association, publicly funded, shared equity	Peer reviewed	Policy and literature review	Policy and literature review	CLT sector	Scope to empower and build community resilience
Mullins (2018)	**Self-help**	England	N/A	Peer reviewed	Policy review	Policy review	Practitioners and policy makers working in relation to self-help housing	Improved skills and work experience which led to better employment opportunities. Improved mental health
Netto et al. (2015)	**Community-led housing and community self-build housing**	Europe	N/A	Report	Literature review	Systematic review of literature	Housing practitioners, health professionals and policy makers	Increased self-esteem Improved social cohesion Alternative to rehabilitation enabling people experiencing substance misuse to engage with services at their own pace.

Reference	Model of CLH	Location	Funding model	Peer reviewed or grey literature	Type of study	Methods	Stakeholders of interest	Health links
New Economics Foundation (2018)	**CLH**	UK	N/A	Grey literature	Blog	N/A	Public and CLH practitioners	
Randell and Cumella (2009)	**Intentional community**	UK	Trust	Peer reviewed	Case study	Interviews	Residents	Social integration High sense of belonging Opportunities for meaningful employment
Rosenberg (2011)	**Community owned housing association**	UK	Community owned housing association	Peer reviewed	Case study	Interviews	Residents	Residents reported higher levels of social connectedness than reported in comparative area Resident control is argued to improve individual and collective wellbeing
Ruiu (2015)	**Cohousing**	UK	Private and housing association	Peer reviewed	Case study	Interviews and cognitive maps	Residents	High levels of affordable housing Self-build process built strong sense of belonging
Ruiu (2016)	**Cohousing**	UK and Italy	Various	Peer reviewed	Multiple case study	Interviews	Residents	Resident stability Sense of belonging Social cohesion and capital building Building social capital with public sector and not for profit organisations
Sanguinetti (2014)	**Cohousing**	US	Range	Peer reviewed	Multiple case study	Survey	Residents	Cohousing residents reported higher levels of social connectedness and connection to community and nature

Reference	Model of CLH	Location	Funding model	Peer reviewed or grey literature	Type of study	Methods	Stakeholders of interest	Health links
Scanlon and Fernandez Arrigoitia (2015)	**Cohousing**	UK	Housing association, shared equity	Peer reviewed	Case study	Interviews	Residents, housing association	
Stevens (2016)	**CLH report**	UK	N/A	Report	Presentation of cases	Reporting	Target audience, government and CLH advocated	
Theriaut et al. (2010)	**Cohousing**	Canada	Part government funded	Peer reviewed	Multiple case study	Interviews and questionnaire	Residents	Improved relationship to food and healthy eating Improved financial stability Increased self-confidence
Tummers (2016)	**Cohousing**	Europe	N/A	Peer reviewed	Literature review	Literature review	Cohousing practitioners	
Wardle (2013a)	**Cohousing**	Canada	N/A	Dissertation	Evidence review	Evidence review	Cohousing practitioners	Opportunities for increased socialisation and friendships

Appendix 2: Eligibility form

Literature eligibility form

Name of reviewer:

Title of publication:

Type of publication:

Year of publication:

Type of study (e.g. case study/literature review):

Location of study (e.g. UK):

Citation:

Population	
Does the paper relate to one of the following groups: residents/prospective residents/ local neighbourhood/wider community/visitors/other lay persons?	☐ Yes ☐ No ☐ Unclear
Is the project defined as any of the following CLH models?	☐ Cohousing ☐ Community land trust ☐ Cooperative housing ☐ Mutual home ownership ☐ Intentional community ☐ Low impact community ☐ Other ...... ☐ Unclear

Does the project include any of the following community or non-residential infrastructure?	☐ Shop ☐ Workshops/ offices ☐ Common house/ communal indoor spaces ☐ Shared kitchen ☐ Shared laundry ☐ Communal outdoor space ☐ Other…… ☐ Unclear
Is the project using any of the following ownership models?	☐ Housing association + community land trust ☐ Cooperative ☐ Shared equity (with asset lock with cap on % owned by resident) ☐ Other form of asset lock ☐ Freehold ☐ Other …… ☐ Unclear
Were/are the residents involved in any of the following?	☐ Designing the buildings and outdoor spaces ☐ Designing the governance of the community ☐ Building the structures (either self-build or self-finish) ☐ Day to day running of the community

Outcomes	
Does the paper refer to any of the following (or related factors)?	☐ Health outcomes ☐ Wellbeing outcomes ☐ Social engagement ☐ Community resilience ☐ Interventions ☐ Impact ☐ Effects ☐ Improvements
Decision reached	
☐ **Include** ☐ **Exclude** ☐ **Unsure**	Reason(s):

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