The Health Foundation

C3 COLLABORATING FOR HEALTH

Healthy Lives

Communities

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The Health Foundation is an independent charity committed to bringing about better health and health care for people in the United Kingdom.

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1. Executive summary

The aim of this briefing paper is to provide background information and an overview of the current evidence on the benefits of promoting healthy behaviours in local communities. Like the other papers in this series (on Early Years, Children and Young People, and Workplace Health), it is a rapid review, not a full-scale systematic review of the literature.

Recent legislative and structural changes have created opportunities for public health and health care to become more community centred – but there are many ways to foster good health that go well beyond the health system itself. Section 2 introduces the underlying rationale for tackling health at very local level, as stated in the Marmot policy objective of 'creating and developing healthy and sustainable places and communities'.

Section 3 reviews the 'big issues' at the intersection of the community and health. It begins by looking at how 'community' is defined in the paper (a geographical, neighbourhood-based approach, rather than communities of interest, age or ethnicity) and highlighting the need to be rigorous in understanding similarities and differences between, for example, urban and rural communities. Inequalities in the social determinants of health are at the heart of many health issues at local level – for example, poor health literacy, which goes well beyond understanding instructions from health professionals: it is about knowing how to lead a healthy life. But even where there is knowledge, knowing does not mean doing – and engaging communities to take action to make it easier to be healthy locally is essential, including through identifying and empowering local people to take the lead themselves, improving the physical environment, and encouraging social interactions using face-to-face social networks and social prescribing (which can help to overcome social isolation, itself a major risk factor for ill health).

Given the increasing emphasis on the need to address health locally, research into 'what works and what doesn't' in promoting community health is surprisingly sparse across many important areas, as is clear in section 4.1, which looks at the review evidence (this is supported by the eight Evidence Tables in Annex 2). Section 4.2 breathes life into the data, presenting 12 case studies covering strengthening communities, volunteer/peer roles, partnership/collaboration and smart access of community resources. There are examples of empowerment/engagement, social prescribing, and environmental and preventative factors, drawn from across the United Kingdom as well as from Europe and the United States, and all involve some level of evaluation.

The issue of evaluation is a thread running throughout the paper, highlighted particularly in sections 5 (challenges and gaps) and 6 (talking points). There is an urgent need to improve evaluation of projects, no longer trying to rely on traditional randomised controlled trials and other such approaches, but moving towards methods that can better capture the complex challenges of and opportunities for health at neighbourhood level. We must be willing to put human and financial resources into what we know works to make change sustainable over the long term, harnessing the many assets that are already embedded within local communities. Real change will require moving away from a medical paradigm and finding better ways of working (and measuring what works) to improve health where people actually live their lives.

2. Introduction

'[T]he community – in the fullest sense: a place and all its creatures – is the smallest unit of health … to speak of the health of an isolated individual is a contradiction in terms' (Berry 2002)

Such statements highlight the potential of communities for public health, and although recent legislative and structural changes have created opportunities for public health and health care to become more community centred (PHE 2015a), **there are many ways in which health can be encouraged that go well beyond the health system itself**. But what do we actually mean by communities, and how can this potential be actualised?

The concept of community hides great complexity, with definitions largely drawing out three aspects:

- shared location or place – this definition focuses on geography, and may also be referred to as locality or neighbourhood;
- shared characteristics – in interest or 'elective' communities, people share a common characteristic other than place; they are linked together by factors such as religious belief, sexual orientation, occupation or ethnic origin; and
- sense of attachment – this refers to a sense of belonging to a place, group or idea (in other words, whether there is a 'spirit of community') (Smith 2001).

Each of these senses of community can and does overlap. For instance, people from one ethnic group or with a shared behavioural characteristic may congregate in a particular area of a town. However, the literature for each of these topic areas is vast, requiring this briefing paper to take a more focused approach.

In public-health terms, one of the key challenges is to identify where the potential intervention points are – namely, where action can be taken to promote and improve the health of the individual and the population as a whole. For that reason, this paper is focusing on the conceptualisation **of community as shared location or place**. This approach is in line with one of the six key themes of the Marmot Review, *Fair Society, Healthy Lives* (Marmot 2010): 'create and develop healthy and sustainable places and communities'. This paper will be particularly considering the evidence on how to identify and utilise the intersection points – such as schools, pharmacies, social landlords and other agencies – which act as an interface between the individual and community infrastructure. Where the data has been presented in other papers, for example on the potential role of workplaces, this will be signposted, rather than re-presented here.

The World Health Organization highlights that 23 per cent of global deaths are due to modifiable environmental factors (Prüss-Ustün et al. 2016) – so where we live has a major impact on health. As Marmot's reports have demonstrated, social and economic features of neighbourhoods have been, and continue to be, linked with mortality, general health status, health behaviours and other risk factors for chronic disease, as well as with other important health indicators. In the United Kingdom, as an example, in the least deprived areas, people aged 80–84 report better rates of health than those 20 years their junior in the most deprived areas (ONS 2014a).

A key underlying rationale for the approach adopted by this briefing paper is the need to identify **evidence for local action that can empower communities and address the social gradient in health in neighbourhoods** (Marmot et al. 2010). This builds on the advice from the World Health Organization's Global Action Plan on Non-communicable Diseases that 'empowerment of people and communities' is essential in tackling chronic disease (WHO 2013). There is also a strong call in the new Sustainable Development Goals (Goal 16) for 'responsive, inclusive, participatory and representative decision-making at all levels', including community level where basic needs are met (UN 2015). Policy at international and national level must be delivered through action locally to create an environment in which a 'culture of health' can thrive in schools, workplaces, neighbourhoods and homes (RJWF 2016).

Other papers in this series look specifically at defined stages of the lifecourse – Early Years, Children and Young People, and people in the Workplace. For this reason, this paper will only touch lightly on these areas, instead highlighting approaches to addressing the systemic challenges associated with living in neighbourhoods at all ages, focusing on the types of prevention activities that can occur in communities (health education, structural interventions, tackling social isolation, using new technologies, etc.). In effect, the purpose of this paper is to look at the evidence about ways to support people in the environments in which they live, navigating their experiences and meeting the lifestyle challenges they face on a daily basis, such as buying and preparing food on a low budget, adopting active lifestyles for themselves and their families, and not smoking or drinking to excess.

3. The big issues: the current position

This section sets out the big theoretical and practical issues in improving health of communities. Section 4.1 then sets out ways in which the research community has begun to take on these issues – and section 4.2 provides practical examples in each area, 12 case studies of innovation in health in local communities.

3.1 Comparing like with like: an ecological fallacy?

'Community' means different things to different people. In the modern world, this complexity is further enhanced with the advent of new technology and greater access to transport links, making it possible to take a much more fluid approach to defining and delimiting a community. Discussions on communities within the academic literature reflect this fluidity, which in turn affects the interpretation of the literature and the ability to apply the key findings to other communities and settings.

Too often, there is a **lack of clarity about what is meant by 'community'** within projects and studies, making it more difficult to determine who is included, who is excluded, and whether we are in fact comparing like with like, even with ostensibly similar projects and interventions. This in turn affects confidence in the **generalisability or potential applicability, replicability or sustainability of findings to other communities**. Even where projects give details of the ethnicity, background or size of the population included within their project, this may hide significant cultural diversity, skewing of population distribution, or socioeconomic factors, which in turn may affect confidence in the transferability of apparently effective interventions to other communities. Furthermore, much of the literature focuses on small-scale projects, within a very limited population – often clearly defined by a shared characteristic (such as HIV status), with fewer examples of larger-scale programmes working across diverse populations within a defined geographical area (South 2014).

The lack of a systematic approach to addressing geographical community health, supported by the use of the existing classifications, may be creating and sustaining an 'ecological fallacy' – the failure to recognise that not everyone living in a deprived area is deprived, and that many people who are experiencing the effects of deprivation do not live in deprived areas at all (this is illustrated by the differences between urban and rural areas – see the box on the next page). Often there is more variation within areas than there is between them. And in some cases, there may be hidden similarities, for which we have no direct evidence – such as attitudes towards food (portion sizes, diet, takeaways etc.) and the propensity to travel to take part in positive activities: a 500m roaming distance (a 6–10-minute walk) is as far as many (particularly children) will travel from their home (Shaw et al. 2015; Charriere et al. 2016)

This adds weight to the need for a more systematic approach to geographical community interventions, with a robust approach to identify the population subgroups within each geographical area, and to map the assets within an area so that appropriate intervention points can be identified and used effectively.

Rural versus urban communities

To use the distinction between 'rural' and 'urban' communities as an example, there are numerous definitions and conceptualisations in the literature of what constitutes rural/urban, and the way in which these concepts are defined and understood influences the approach taken to projects and programmes, with much of the literature on healthy communities and interventions focusing on the experiences of people living in urban environments (reflecting the concentration of the population in towns and cities). Nevertheless, the UK geographical landscape is still predominantly classified as rural, although the population is not evenly distributed, with the majority of the population living in urban areas (Cloke et al. 1997) (see Table A). Measures used in the literature to distinguish rural and urban areas generally note population density, accessibility of facilities, land usage, and the size of the local settlements.

Table A: Urban and rural areas compared

Measure	Urban	Rural
Population density (ONS 2013)	81.5 per cent (45.7 million) (England and Wales)	18.5 per cent (10.3 million) (England and Wales)
Population profile (ONS 2013)	Median age is 37 84.7% were born in the UK 77.2% are white British	Median age is 45 94.9% were born in the UK 95% are white British
Health perception	Generally report lower levels of health than people in rural areas (Riva 2009) Proportion of residents reporting good health ranged from 77.4% in the North East to 83.8% in London (ONS 2011)	More likely to report better levels of health than those in urban areas (Riva 2009) North East had the lowest proportion of rural residents reporting good health (76.9%); the South East had the highest proportion (84.4%) (ONS 2011)
Variable housing availability and gentrification of areas	Housing stock often poorer in urban areas	Housing often prohibitively expensive and the cost of living often higher in rural communities
Limited employment opportunities	Unemployment rates in inner-city areas may be disproportionately higher	Range of available jobs and training opportunities often lower in rural areas
Access to services	Generally good access, although population density may be an issue for waiting times	Decline and centralisation of services (local shops, pub, primary school), poor transport links and issues of isolation in rural communities (Manthorpe et al. 2008), and health-care facilities (GP surgery, pharmacy, hospital) may not be nearby

Not all rural or urban areas experience the same challenges, and descriptions of the problems of inner cities or rural areas may fail to capture the diversity of experience of the residents (Pateman 2011; Kenny et al. 2013). There are significant health inequalities within small rural areas, despite the reports of better perceived health status, and these inequalities cannot be explained solely by the characteristics of the local populations, i.e. there was a neighbourhood effect over and above that of the population characteristics (Riva et al. 2009).

3.2 Promoting community empowerment, engagement and participation[1]

3.2.1 An assets approach

'An assets approach to health and development embraces a positive notion of health creation and in doing so encourages the full participation of local communities in the health development process' (Scottish Government 2009).

One of the key challenges to be addressed in creating healthy communities is the need to **focus the physical assets and skills of the residents on the prevention of chronic diseases and reducing health inequalities** within and between local areas. A salutogenic approach[2] that focuses on assets (Table B) rather than perceived deficits can be successful in improving health and wellbeing (Scottish Government 2009). There are examples of this working in practice, but to date it has not been systematically developed, with projects in many communities suffering from short-term or terminal insecurity of funding and hence proving to be unsustainable.

Table B: What is an asset?

A health asset is any factor or resource which enhances the ability of individuals, communities and populations to maintain and sustain health and wellbeing. These assets can operate at the level of the individual, the family or community as protective and promoting factors that can act as a buffer against life's stresses (Morgan and Ziglio 2007).

An asset is any of the following:

- the practical skills, capacity and knowledge of local residents;
- the passions and interests of local residents that give them energy for change;
- the networks and connections – 'social capital' – in a community, including friendships and neighbourliness;
- the effectiveness of local community and voluntary organisations;
- the resources of public-, private- and third-sector organisations that are available to support a community; and
- the physical and economic resources of a place that enhance wellbeing.

Source: IDEA 2010.

Identifying, harnessing and increasing the skills and commitment of community leaders and stakeholders to develop and promote lasting strategies that help people make healthy choices where they live, learn, work and play is crucial to a salutogenic approach. Empowering people provides energy for new ways of challenging health inequalities, valuing community resilience, and recognising and strengthening existing community networks and expertise. The box on the following page provides an example of an asset approach in practice: cancer champions.

[1] The National Institute for Health and Care Excellence (NICE) uses the terms 'community engagement' and 'community development' almost interchangeably. The key defining characteristic appears to be that engagement is a top-down process, and development is a bottom-up process (Fisher 2016).

[2] 'Salutogenesis' describes an approach focusing on factors that support human health and wellbeing, rather than on factors that cause disease.

An asset approach: cancer champions

The Department of Health has adapted an asset approach in a number of its community programmes. One of these is the cancer champions programme, with local volunteers trained to support people to talk about cancer signs and symptoms, dispel cancer myths and encourage people to talk to their GP. The programme recognises that local people have knowledge, skills and networks that can be mobilised to improve health. One example is the North East Lincolnshire Community Health Project, a local cancer champion project that is conceived, planned, tested and carried out solely by volunteers from the local community, who draw on their existing local networks to access people. The impact has been notable – in the first two years of the project, the number of two-week wait referrals for cervical and bowel cancer increased by 25 per cent and 31 per cent respectively, and by 66 per cent for prostate cancer (IDeA 2010).

3.2.2 Community empowerment

Community empowerment has long been a central plank of health-promotion discourse, referring both to the process of enabling communities to take control over their own lives and, theoretically at least, the outcome (Kenny et al. 2013). It is more than the involvement, participation or engagement of communities; it implies **community ownership and action that explicitly aims at social and political change**. It recognises that if some people are going to be empowered, then others will be sharing their existing power and giving some of it up (Baum et al. 2008). Where communities are empowered there ought to be visible evidence of a boost in local democratic participation; increased confidence and skills among local people, higher numbers of people volunteering in their communities, and more satisfaction with quality of life in a local neighbourhood.

However, making community empowerment operational remains a thorny challenge. It is difficult to measure, and often difficult to implement, overlapping with other theoretical perspectives such as community capacity and social capital.

One of the key challenges is around the **legitimacy of representation** (Kenny et al. 2013). There is significant evidence showing that in many cases individuals who have the time, energy and motivation to become involved in interventions and programmes, may in fact not be supported by the rest of the community, leaving a risk that dominant minorities may dictate community needs unless adequate precautions are made to involve as many people as possible. A careful mapping of the human as well as financial, environmental and other assets of a community – mapping of both people and place – can help to address this, although communities (and organisations working with communities) may have limited understanding of how to identify these resources.

A number of techniques can be used singly and corporately for discovering and mobilising community assets (IDeA 2010):

- asset mapping (developing and utilising a map or inventory of community resources, skills and talents to create new partnerships and re-energise existing support mechanisms);
- asset-based community development (locating community assets, building relationships, mobilising residents, identifying a strategic goal, and leveraging resources to drive change);
- appreciative inquiry (consultative technique, focusing on what works);
- story-telling (informal way to collect experiences);
- World Café (engagement technique, particularly useful in conferences, communities and workshops);
- participatory appraisal (local people trained to research views, knowledge and experience of neighbourhoods to inform needs assessment and appraisal); and

- open-space technology (meeting with no fixed agenda – participants determine the real-time need on which to focus).

See section 4.2.5, case study 9, for the example of CHESS®, an asset-mapping tool, and how it was used to support children's wellbeing in east London.

Community development workers can play an important role in helping communities identify local assets, as well as facilitating plans and co-creating activities with local people to enable change. They work as a link between the community and a range of other local-authority or voluntary-sector providers, including police, teachers and social workers.

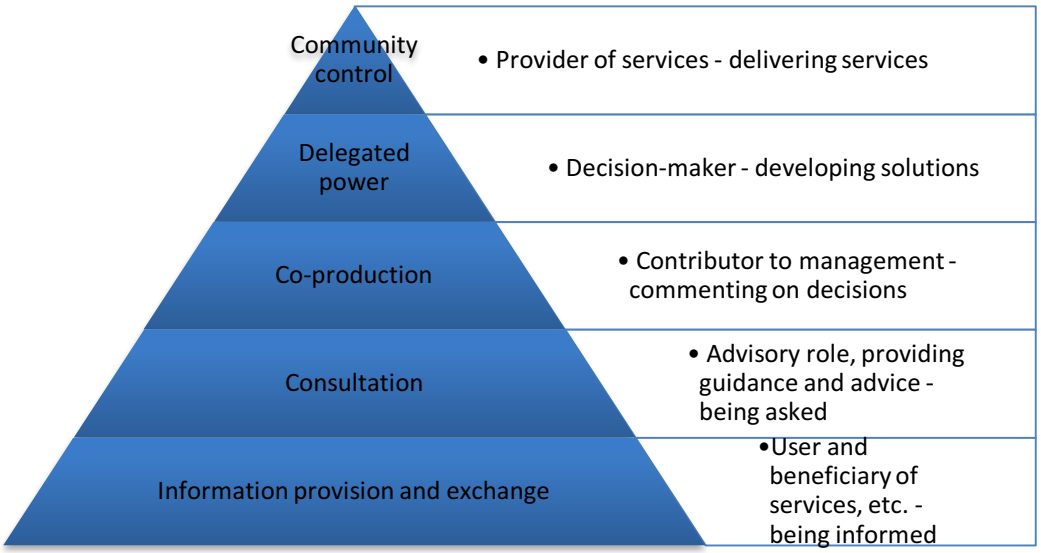
The **scope of the agenda** too, can be a challenge. Many health-improvement initiatives begin with ring-fenced funding for a short-term project on a specific challenge, such as promoting physical activity. In effect, the agenda has already been set, and the process of involving the community is more about engagement than empowerment. True empowerment takes a bottom-up approach, with the community itself asked to identify the key challenges, which would then be addressed using the community's own assets, supported by other services and organisations. Asset-based approaches are an integral part of community development in the sense that they are concerned with facilitating people and communities to come together to achieve positive change using their own knowledge, skills and lived experience of the issues they encounter in their own lives.

Mobilising existing community assets can help to alleviate the effects of long-term disadvantage. A joint report by PHE and NHS England makes a compelling case for 'a family of approaches' to harness the energy within communities as part of a shift to more person- and community-centred working patterns. Such interest demonstrates the increasing policy focus on communities, indicating this approach will become increasingly important (PHE 2015a).

3.2.3 Community engagement

The concept of community engagement covers a broad range of activities.[3] NICE (2014) identifies five generic approaches (Figure 1, column 1), which in turn imply a role for the members of the community: (Figure 1, column 2).

Figure 1: Community Engagement Pyramid showing tiered approaches to community engagement



Sources: NICE 2014 and BLF 2014.

[3] See also section 4.1.2 for the lack of clarify around community 'empowerment' and 'engagement'.

While lower-level engagement (such as information sharing) can improve awareness, uptake and effectiveness of services, higher-level engagement enabling more decision-making in the community by the community, is more likely to build confidence. Both approaches can improve health, but community engagement works best where it is an **ongoing cumulative process enabling relationships and trust to build and strengthen over time** (see, for example, PHE 2015a and NICE 2014).

Key community-engagement components that affect health outcomes can include real power-sharing, collaborative partnerships, bidirectional learning, incorporating the voice and agency of beneficiary communities in research protocol, and using bicultural health workers for intervention delivery (Cyril et al. 2015). NICE has also produced a guideline on improving health and wellbeing through community engagement (see box).

NICE Guidance: Community Engagement: Improving Health and Wellbeing and Reducing Health Inequalities

This latest guideline from NICE covers community engagement approaches to reduce health inequalities, ensuring that health and wellbeing initiatives are effective and helping local authorities and health bodies meet statutory obligations (NICE 2016). It includes recommendations on:

- 'overarching principles of good practice – what makes engagement more effective?
- developing collaborations and partnerships approaches to encourage and support alliances between community members and statutory, community and voluntary organisations to meet local needs and priorities;
- involving people in peer and lay roles – how to identify and recruit people to represent local needs and priorities;
- making community engagement an integral part of health and wellbeing initiatives; and
- making it as easy as possible for people to get involved'.

3.3 Social interactions

John Donne famously said 'no man is an island' and, faced with the increasing complexity and inter-relationships of modern-day society, supported by the advent of new technology, this quote continues to resonate. There is a significant and growing evidence base showing that social interactions – be they face-to-face or online – can impact positively on the health of individuals, families and communities, improving confidence and ability to make decisions about their own health.

3.3.1 Social networks

Good social networks – the **web of relationships with family, partner, friends and colleagues** – have positive cognitive, emotional, behavioural and biological influences on our health (Dodds 2016). There is good evidence across a range of health and wellbeing conditions that active social networks improve population resilience (Fisher 2016; Bartley 2006), reducing the risk of experiencing mental-health issues (Jenkins et al. 2008), depression (Morgan and Swann 2004) and supporting people to cope better with economic problems (Bartley 2006). In addition, there are other societal benefits (Fisher 2016) with evidence to show reduced risks of delinquency (Sampson et al. 1997), crime (Fulbright-Anderson and Auspos 1986), and positive associations with employability (Clark and Dawson 1995) and social cohesion (Fulbright-Anderson and Auspos 1986). But the benefits are not restricted to individuals – social networks may **cascade and amplify the effect of interventions** beyond the immediate participants in a social interaction (Perkins et al. 2015). However, social networks can also have negative effects that can spread unhealthy behaviours (Christakis and Fowler 2007; Christakis and Fowler 2009), such as obesity (section 4.1.3.1).

Social networks are changing rapidly. Competition for housing and jobs outside local areas has meant that family networks have become dispersed over wide areas, with social repercussions including loneliness at all ages.

As well as these changes to society, face-to-face interactions are being supplemented by more technological engagement. The use of **digital and social media** is increasing year on year, with around 90 per cent of adults over the age of 16 (OFCOM 2015) now personally using a mobile phone (and two-thirds owning a smartphone), with increased usage of mobile technology to access the internet, for peer-to-peer support, appointments, etc. The positive benefits of social media and social networking can include facilitation of social connections among peers with similar experiences and increased awareness of prevention programmes, crisis help lines, and other support and educational resources (Luxton et al. 2012). However, a number of studies of the health benefits of social-media usage, have expressed concerns that it may also be having a detrimental impact on health in some cases, such as suicide behaviours (Luxton et al. 2012) and mental health in adolescents (Sampasa-Kanyinga and Lewis 2015) (see also section 3.5 of the Children and Young People paper in this series).

However, people who are 'community communicators' (Wood and Fowlie 2013) – the town criers of today – continue to be at the heart of communities, spreading the word about what is going on locally, and making links and building trust and engagement between residents and services and opportunities (see Neighbourhood Health Watch, case study 6).

3.3.2 Social isolation

Social isolation has roots at societal, community and individual levels – and is **on the increase**. The percentage of households occupied by just one person more than doubled to between 1972 and 2008, the divorce rate has almost doubled in the past 50 years, and local community facilities such as post offices have closed. These factors, and others, translate into loneliness: a survey in 2010 found that 10 per cent of people often feel lonely, a third have a close friend or relative who they think is very lonely, and half think that people are getting lonelier in general (Mental Health Foundation 2010). And social isolation can have very serious consequences for health: a systematic review concluded that 'individuals with adequate social relationships have a 50 per cent greater likelihood of survival compared to those with poor or insufficient social relationships' – this is comparable to the impact of giving up smoking, and greater than that of obesity and physical activity (Holt-Lunstad et al. 2010).

Anyone can experience loneliness, but it is a **health-inequalities issue** for communities because some individuals or groups may be more vulnerable than others, influenced by factors including physical and mental health, migrant status, level of education, employment status and age (PHE 2015b). Social disadvantage is linked to many of the life experiences that increase the risk of social isolation.[4] For example, in the most deprived areas 10 per cent of 25–29-year-olds and over 50 per cent of those aged 65–69 have a disability – double the rate in the least deprived areas. Similarly, men and women aged 40–44 in the most deprived areas are around four times more likely to have 'not good' health compared to their equivalent in the least deprived areas (ONS 2014a).

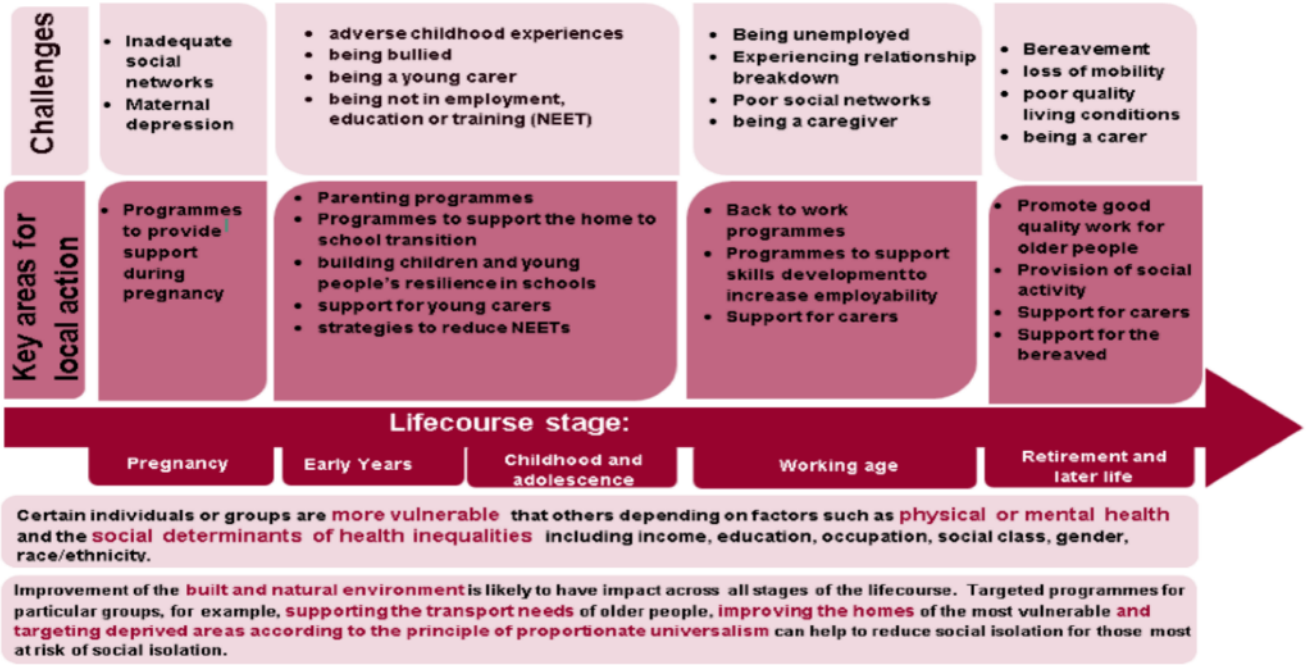
Neighbourhood characteristics can also have an impact on social isolation, at any stage of the lifecourse. Deprived areas, for example, often lack adequate provision of public spaces, creating barriers to social engagement. The closure of pubs (an important arena for social interaction) (Dunbar 2016) or poor transport links in rural areas may undermine the ability of residents to build and maintain social connections.

There is also evidence that social isolation may have a cumulative effect. Isolation in childhood can be a risk factor for impairment of future adolescent and adult interactions, with a negative impact on future mental wellbeing, creating a vicious circle that affects future experience of social isolation. Life events such as the

[4] Rural poverty, social exclusion, and levels of ill health and need amongst particular groups (for example, the growing numbers of older people, families with young children and the younger unemployed) are often hidden.

loss of a loved one, caring responsibilities or disabling conditions may also contribute to a reduction in social contact, and contribute to social isolation (Figure 2).

Figure 2: The impact of social isolation across the lifecourse



Source: PHE 2015b.

3.3.3 Social prescribing

It is increasingly clear that the health-care system contributes only in a small way – around 20 per cent – to our health, with a further 10–20 per cent from our genes, and up to a staggering 60 per cent from our behaviour, social circumstances and the environment (McGovern et al. 2014). However, the overwhelming majority of society's health investments go to the health-care sector for clinical services or (decreasingly) public-health interventions. In 2015, only 5.4 per cent of health-related research expenditure by the largest government and charity funders was dedicated to primary disease prevention or health promotion (UKCRC 2015).

Social prescribing is one method that has been used to good effect to encourage positive social interactions, particularly among those who do not enjoy good health. It is a method for the health-care system 'to access pragmatic solutions to meet the growing needs of people living with long-term physical and mental health conditions when medication is not always appropriate or necessary' (Social Prescribing Network 2016), **linking patients with medical and non-medical sources of support within the community**, such as opportunities for arts and creativity, physical activity, learning new skills, volunteering, mutual aid, befriending and self-help, as well as support with, for example, employment, benefits, housing, debt, legal advice, or parenting problems.

A social-prescription approach gets to the heart of the social determinants of health – the 'causes of the causes' (Marmot 2010) – and provides a conduit for health professionals to use to direct patients towards better health. As Sir Michael Marmot has noted, 'Why treat patients and send them back to the conditions that made them sick?' (BBBC, undated).

Social prescribing is usually delivered via primary care – for example, through 'exercise on prescription' or 'prescription for learning' – although there is a range of different models and referral options. However, despite examples such as the Bromley by Bow Centre (section 4.2.3, case study 4) that show that social prescribing has been effective, full-scale implementation of the concept has not been achieved. This highlights a significant issue for communities – even where there is evidence that something is working,

sustainability and roll-out of effective initiatives is often not achieved (a topic taken up in more detail in the final paper in this series).

3.4 Environmental factors

Social, economic and physical conditions within local neighbourhoods can contribute to poor community health outcomes, for example by facilitating sedentary lifestyles (Renalds et al. 2010; McCormack and Shiell 2011), making it more difficult for people to access fresh fruit and vegetables (Ball et al. 2015), or by facilitating gambling behaviours. (Hanrahan 2013; ScotPHN 2014). Understanding and acting on the environmental factors that help to shape how people live and work is necessary if there is to be a step change in health inequalities and in community health outcomes.

'Environment' is, in many respects, a catch-all phrase, encompassing:

- the natural environment (factors such as air, noise, water, green space);
- the built environment (internal and external factors associated with housing (e.g. damp), roads and transport systems, buildings, infrastructure (access to shops, medical facilities, etc.)), and
- socioeconomic and cultural factors (characteristics of societies and communities and neighbourhoods, urban density and perceptions of criminal activity, etc.).

The landscape of a community can be overtly hazardous to the health of the residents – but it can also act to improve health outcomes (Table C).

Table C: Examples of effects of the physical environment on health

Natural environment

- Air pollution is known to be responsible for around 2.5% of mortality in some rural areas to over 8% in some London boroughs[5] (PHE 2014). Reducing air pollution levels reduces the burden of disease from stroke, heart disease, lung cancer, and both chronic and acute respiratory diseases, including asthma (WHO 2014). (See also the Early Years (section 3.1) and Children and Young People (section 3.2.5) papers in this series.)
- Excessive noise can interfere with daily activities, disturb sleep, and provoke changes in social behaviour. The WHO reports that traffic noise alone is harmful to the health of almost every third person in the WHO European Region, with one fifth of Europeans regularly exposed to sound levels at night that could significantly damage health (WHO 2016a).
- Contact with safe, green spaces can improve a number of aspects of mental and physical health and wellbeing, as well as various social and environmental indicators (FPH/Natural England 2010). For example:
    - contact with green spaces and natural environments can reduce symptoms of poor mental health and stress, and can improve mental wellbeing across all age groups; and
    - access to green spaces can increase levels of physical activity for all ages, including encouraging active transport, and increase levels of community activity across social groups.

Built environment

- The adverse health effects of living in cold homes and fuel poverty are well documented. A causal link has been identified between fuel poverty and adverse physical and mental health and wellbeing outcomes, including increased risk of death in cold weather (excess winter mortality), increased risk of respiratory illness, impaired mental health and social isolation (Marmot Review Team 2011).
- There were 1,780 road deaths in the year to September 2015 in the United Kingdom – a 3% rise on 2014 (DfT 2015).

[5] Because of uncertainty in the increase in mortality risk associated with ambient PM2.5, the actual burdens associated with these modelled concentrations could range from approximately one-sixth to about double these figures.

Social and cultural environment
• Neighbourhood context plays an important role in the development of the perceptions of crime, and the feeling of safety of residents. This has an impact on both mental and physical wellbeing, for example, with physical activity restricted to 'safe areas' (see also section 3.2.4 of the Children and Young People paper in this series).

There is a good understanding of the sources of most environmental risks, and UK legislative approaches have been put in place to respond to systemic challenges. For example, sources of air pollution include power stations, traffic, household heating, agriculture and industrial processes, and legislative and policy measures to address it include the promotion of active travel, as well as infrastructural approaches, such as reducing fossil-fuel use (RCP/RCPCH 2016).

However, policy and planning needs to be approached with care, as planning policies can, and have, resulted in community fragmentation by emphasising the needs of the individual over those of the community, making it difficult for people to develop and sustain social-support networks (JRF 2008). Proximity to appropriate amenities can promote (or deter) people from making healthy choices, facilitate timely access to health services, and potentially exacerbate the potential for harmful or protective behaviours.

Planning professionals have long worked collaboratively with environmental-health professionals to reduce and mitigate the impacts of activities that negatively affect human health, but arguably the focus has been on avoidance of pollution or danger, a recent example being efforts such as zoning to prevent an overabundance of fast-food outlets (London Food Board/CIEH 2014; TCPA 2016). However, attention is also now turning to the **provision of infrastructure and services that have a positive impact on human health**, such as quality open space. For example, if an area has no safe walking routes, road traffic accidents may rise, and sedentary behaviours may be further encouraged.

There is a need for this health-promotion lens to be employed more widely, recognising a wide variety of health challenges, which would action the World Health Organization's call for a '**whole-of-government, whole-of-society, health-in-all-policies' approach** (WHO 2013).

3.5 Focusing on prevention

Lifestyle behaviours known to result in poorer outcomes in adulthood are generally established in late childhood and adolescence (see also section 3.2 of the Children and Young People paper in this series). These 'risky' behaviours include smoking, alcohol and illicit drug use, and sexual risk taking (McPherson et al. 2013) (Table D). Ease of neighbourhood access, and familial and peer exposures can increase – or mitigate against – the likelihood of uptake of many of these behaviours.

Table D: Lifestyle behaviours

Smoking See also the Children and Young People paper, section 3.6.2	• Smoking initiation is associated with a wide range of risk factors within the community, including the ease of obtaining cigarettes, smoking by parents, siblings and peers, socioeconomic status and exposure to tobacco marketing (ASH 2015; RCP 2010; Ofsted 2013) • Death rates from tobacco are two to three times higher among disadvantaged social groups than among the better off (ASH 2015). • Long-term smokers bear the heaviest burden of death and disease related to their smoking. Long term smokers are disproportionately drawn from lower socioeconomic groups. (ASH 2015)
Alcohol See also the Children and Young People paper, section 3.6.3	Alcohol use is a community and health-service challenge, contributing to multiple social harms (Cairns et al. 2011). These include: • poor educational performance, risky sexual behaviour and teenage pregnancy (Newbury-Birch et al. 2009; OECD 2009);

	• crime and disorder (Home Office 2004; Hibell et al. 2009); • hospital admissions: n 2013/14, there were an estimated 1.06 million admissions related to alcohol consumption where an alcohol-related disease, injury or condition was the primary reason for hospital admission or a secondary diagnosis. This was an increase of 5% on the previous year, and 115% since 2003/4 (HSCIC 2015b).
Teenage pregnancy See also the Children and Young People paper, section 3.6.1	• Under-18 conception rates were highest in the most deprived parts of England in 2009–11 (ONS 2014b).
Obesity See also the Early Years paper, section 3.4.1 and the Children and Young People paper, section 3.2.1	• There is a strong relationship between deprivation and childhood obesity. Analysis of data from the National Child Measurement Programme (NCMP) shows that obesity prevalence among children in both reception and year 6 increases with increased socioeconomic deprivation (PHE 2016). • Among adults, too, obesity prevalence of the most deprived 10% of the population is approximately twice that of the least deprived 10% (PHE 2016).

Physical activity	• Street connectivity, land-use mix and residential density are three large-scale features of neighbourhood designs that are commonly studied for their associations with physical activity, both for recreation and active travel. For example:
	  • participants living in high- compared to low-walkable neighbourhoods (based on factors above) accumulate over 750 more steps a day, accounting for approximately 8% of recommended daily steps (Hajna et al. 2015); and
	  • a strong independent positive association was found between weekly frequency of walking for transport and the objectively derived neighbourhood walkability index (Owen et al. 2007).

Understanding how best to support communities to address lifestyle issues is a foundational requirement for making progress on health inequalities. But it is also crucial that we understand **where in communities the problems are most prevalent**. For example, while smoking rates are dropping across the United Kingdom as a whole, the rate in the most disadvantaged communities (men: 32.9 per cent; women 26.1 per cent) is much higher – more than double – people in the highest socioeconomic quintile (men 14.3 per cent; women 10.2 per cent) (ONS 2014c). Considering communities as a geographical setting is helpful in that it supports action which can address neighbourhood effects, but an inequalities lens is still needed to ensure that some of the residents are not inadvertently disadvantaged by approaches that focus on geography, rather than population sub-groups.

4. What works and what doesn't?

4.1 Research-based evidence

This section draws particularly on the evidence provided in the systematic reviews and other studies presented in the Evidence Tables (Annex 2). For examples of 'what is being done in practice' currently around the United Kingdom, see the case studies presented in section 4.2.

4.1.1 Comparing like with like: defining communities

Commentators such as Sir Michael Marmot note that communities can be an important determinant of health outcomes. Neighbourhoods are where people 'live, work and play', as well as where much of our health and health behaviours are determined – and therefore where interventions and prevention need to be based. The way in which a community or neighbourhood is defined can influence patterns of inclusion and exclusion, and can have significant costs in terms of access to community infrastructure, services and community cohesion (Allman 2015; MacQueen et al. 2001) (see also box below). Understanding the potential intervention points within a neighbourhood (schools, places of worship, pharmacies, workplaces, social clubs...) and how this relates to the potential application of new technologies and types of intervention within a neighbourhood setting is therefore essential if progress is to be made and sustained.

As the SPOTLIGHT studies demonstrate,[6] a **robust understanding of the way in which people define, limit and experience their neighbourhoods is needed**, if we are to effectively interrogate the interaction between contextual factors and patterns of lifestyle challenges, such as obesity (Charreire et al. 2016). This study demonstrated that there was an association between gender and length of residence and the perceived size of the neighbourhood. Women generally saw their neighbourhood as being smaller than their male counterparts, while people who had lived in an area longer generally saw their neighbourhood as being larger. In addition, residential density was found to be a key factor in determining the perceived size of a neighbourhood, with people living in lower-density areas describing their neighbourhood as larger than those living in higher-density areas.[7] This perception of the size of a neighbourhood can have consequences in terms of the likelihood of residents accessing health-care services (Vallée et al. 2014) and perceptions of available space for physical activity (Smith et al. 2010; Stewart et al. 2015).

In summary, one of the key challenges in the United Kingdom is that, to date, **there has been limited systematic engagement across communities**, with a large amount of the available data being focused on activity within subsections of a community, rather than mainstream community programmes, which engage widely with diverse populations (South 2014). More systematic engagement is needed if real progress is to be made, with the 'community' defined in a way that is as inclusive as possible. A further challenge is that many local (successful) initiatives are never reported in the peer-reviewed literature. A more systematic approach will enable us to capture this and learn from what has been shown to work locally, as well as what has been shown to work within the literature (PHE 2015a).

Rural versus urban[8]

An example of a challenge to defining 'community' appear when looking at urban versus rural health in the peer-reviewed literature, as much of the literature reflects on a rural experience vastly different to the UK experience. The literature is dominated by evidence from the United States, Australia and (moving to non-English-speaking area) China and countries in Africa (see, for example, MacKinney et al. 2014; Fraser 2006; Ranasinghe 2014), where the distance to neighbours, size of settlements, and proximity of local services can often by measured in hours, rather than miles. This undermines confidence in the generalisability of findings to a UK context. Even where relevant literature is found, there are large variations in the definitions and contexts of practice. Comparing interventions in remote areas of Scotland, for example, with interventions in rural areas in Oxfordshire highlights vastly different contexts. Furthermore, in general, most studies seem to focus on support for people who are ageing

[6] The SPOTLIGHT project ('sustainable prevention of obesity through integrated strategies') was a four-year collaboration in eight countries, investigating individual and contextual determinants of obesity, and ways in which the neighbourhood environment (i.e. local community) can affect obesity prevention (SPOTLIGHT 2016).

[7] Factors that could contribute to this include the proximity of access to services, availability of transport to services, and the level of awareness of the local area that has been developed over time.

[8] It should, however, be noted that this briefing paper is based on a rapid review of literature – a more systematic review, focusing on each area within the document as a discrete topic could highlight a very different story.

(with other age groups less well researched) or on a limited range of services (rather than taking a comprehensive, systematic approach to community health and wellbeing).

4.1.2 Promoting community engagement and participation

A systematic review of the evidence on community engagement (O'Mara-Eves et al. 2013) suggests that there are three broad approaches to community engagement in the literature:

- theories of change for patient/consumer involvement;
- theories of change for peer/lay-delivered interventions; and
- theories of empowerment to reduce health inequalities.

Peer/lay-delivered interventions tend to have greater effects, but the systematic review found insufficient evidence to test possible reasons for this (such as intervention intensity and exposure effects) – another example of the **lack of data and evidence** to support interventions, which too often go under the radar and are therefore not easily accessed as exemplars.

In addition:

- most of the available literature was not from the United Kingdom (the majority were from the United States), meaning that the transferability of findings from studies would need further consideration;
- relatively few outcome evaluations were accompanied by robust process evaluations, and diversity in definitions etc. across studies meant that cross-study comparisons were more difficult;
- community-designed interventions were generally more effective and considered to be more acceptable by the community; and
- it was not possible to give a robust conclusion on the economic effectiveness of engagement models. Where economic evaluations were available, they were largely on peer-led interventions, spread across a wide range of topics, with very few studies reporting on the economic evaluation of empowerment projects. Most studies were methodologically limited.

However, this review has shown there may be a further issue to consider. One of the key challenges is that, throughout the peer-reviewed literature, the concepts of community empowerment and community engagement appear to be used quite flexibly and interchangeably. Many studies talk about empowering communities, but on further exploration the focus has actually been on engagement of community members with pre-set initiatives, rather than bottom-up empowerment per se. Others (see, for example, Cyril et al. 2015) focus on more substantive approaches, such as real power-sharing and collaborative partnerships.

Greater **consistency is needed on what is meant by empowerment and engagement**, and how they can be measured to ensure comparison of like with like. A strong case can be made (Cyril et al. 2015) for the need to develop new and innovative approaches to measure the impact of community engagement on health outcomes, but arguably there is an equally strong case for the need to have similar robust measures for community empowerment.

Examples of initiatives where empowerment strategies appear to have been used to great effect include:

- a youth violence prevention strategy (Reischl et al. 2011) and
- HIV programme development in low- and middle-income countries (Kerrigan et al. 2015).

One systematic review looking specifically at community engagement noted that it could have both negative and positive outcomes for the individual. Positive outcomes included 'personal empowerment', but negative outcomes included stress and exhaustion, as involvement drained participants' energy as well as their time and financial resources. The physical demands of engagement were reported as particularly onerous by individuals with disabilities. Consultation fatigue and disappointment were negative consequences for some participants who had experienced successive waves of engagement initiatives. For

some individuals, engagement may involve a process of negotiation between gains and losses (Attree et al. 2011)

Much of the literature available on community-health initiatives noted a strong community-engagement focus, particularly interventions focused on promoting physical activity (especially active travel) and addressing unhealthy eating. However, one of the recurrent challenges evident in the literature was identifying who exactly was included within the intervention, as many studies failed explicitly to define the scope of participants. For example, a number of reviews highlighted that the data on adolescents was often bundled up with other age-groups (Hagell et al. 2015; Sleddens 2014). In addition, many interventions lack clarity about the desired behavioural outcomes, or report on generic outcome measures. This is unfortunate, as the use of different outcome measures can influence the interpretation of intervention effectiveness (Charlebois 2012).

A Charter for Community Development in Health

In recognition that health and other agencies must inspire and engage the community to a much greater extent to deliver health, the NHS Alliance has produced a Charter for Community Development in Health (NHS Alliance 2014). It calls on decision-makers actively to develop community-led partnerships, with community development workers providing expert support as needed, and listening to and responding to local people.

In effect, while the potential to influence lifelong behaviours supports the design of effective and age-appropriate interventions for children and adolescents, there is a need for clarity on the design, purpose and scope of interventions to increase confidence in their replicability, and potential for long-lasting change. For example:

- very few food literacy programmes have demonstrated a positive impact on dietary behaviours to date (Brooks and Begley 2014); and
- a review (Bourke 2014) of adolescent dietary interventions found only one intervention that reported a lasting statistically significant increased consumption of fruit and vegetables.

This suggests that there may be limited academic evidence available on which to draw, highlighting another recurrent challenge. **Much of the evidence on community initiatives may never make it into the academic press.** Accessing this evidence is a further challenge (section 5.3).

There are, however, some factors across the studies that seemed to be related to more effective outcomes:

- the capacity and willingness of service users and the public to get involved;
- the skills and competencies of public sector staff; and
- the dominance of professional cultures and ideologies.

4.1.3 Social interactions

4.1.3.1 Social isolation and social networks

Enhancing peer support and group activities improves social connectivity, and with it improves health. **Connecting to others, and giving and receiving support, are linked to improved health and wellbeing** outcomes, with social isolation and loneliness linked to an increased risk of negative health behaviours such as increased drinking, comfort eating, and lower rates of physical activity (Nesta 2016).

A number of studies have looked at the way in which social norms and networks can be influential in changing and supporting health-promoting behaviours. Smoking cessation, for example, can be encouraged through social networks (Hitchman et al. 2014). Social norms are changing around smoking (notably following the ban on smoking in public places in 2007), and the influence of peer relationships is clear: smoking cessation by a spouse decreased individuals' chances of smoking by 67 per cent, by a friend by 36 per cent, and by a co-worker in a small firm by 34 per cent (Christakis and Fowler 2007).

However, negative behaviours can also be influenced through social networks. A study of over 12,000 people to investigate clustering of obesity concluded that the risk of obesity is increased even at three

degrees of separation (i.e. the risk of an individual having obesity is 10 per cent higher if his/her friends of friends of friends are obese). In addition, weight gain in one person was associated with weight gain in his or her social network: an individual's chances of becoming obese increased by 57 per cent if he or she had a friend who became obese in a given interval and by 37 per cent if his/her spouse became obese. 'Obesity appears to spread through social ties' (Christakis and Fowler 2007).

Face-to-face social networks are key, but social interaction is expanding into the digital age, and there is evidence to show that **social media can be an effective tool for supporting behaviour change**. For example, a study of the effectiveness of social media in supporting people to stop smoking found that Facebook was a useful, cost-effective recruitment source for young adult smokers. Ads posted via newsfeed posts were particularly successful, with the conclusion being that this was because they were viewable via mobile phone (Ramo et al. 2014; Ramo et al. 2015). The utility of mobile phones (Whittaker et al. 2012) and computer aids (Chen et al. 2012) has also been explored, with similarly positive results.

There are also hundreds of thousands of health apps and websites available, claiming to support people with a huge range of health and lifestyle challenges – support that can happen at home or in the local community. However, health professionals and others have expressed concerns about the quality of many apps – they are often of limited functionality, developed rapidly, not based on evidence of efficacy or behaviour-change principles, with little evaluation, and few are designed to address areas of greatest need (Boulos et al. 2014).

There are inherent difficulties in regulating apps – including the need to regulate without stifling innovation (AMS/RAE 2015). The NHS is currently in the process of developing a benchmarking library for health apps – but this is still in its early stages (NHS 2016b) – and efforts are being made in accreditation and assessment of health apps (for example, Stoyanov et al. 2015). Improving e-health literacy and tackling digital exclusion (see box) is also required to navigate successfully the plethora of apps available – for example, of 552 alcohol-related apps identified in the United Kingdom, over half were entertainment apps and only 14 per cent focused on alcohol reduction (Crane et al. 2015).

Addressing digital exclusion

According to NHS data on digital participation, some 9.5 million people lack basic digital numeracy skills, and 6.5 million people have never been online. Those experiencing digital exclusion tend to be older, poorer and more likely to be disabled: people who are already at risk of the experience of health inequalities (Tinder Foundation 2015). The Digital Participation scheme is working with community organisations as well as national partners to support hard-to-reach people, and provide training, with a view to supporting people to better manage their health in everyday life.

There are also increasing numbers of **locally based activities for which support and awareness have been built online**, and have anecdotal benefits to physical and mental health, even if they have not been formally studied. The rise of parkrun is one such example, a weekly 5km run that, as of April 2016, has nearly 950,000 people registered, and is participated in by around 90,000 people a week in almost 400 locations (mostly in the United Kingdom, but spreading abroad) – and is widely seen as friendly and fun, as well as health promoting. (See also the final paper in this series.)

4.1.3.2 Social prescribing

Social prescribing has the potential to become fully integrated as a patient pathway for primary-care practices and to strengthen the links between health-care providers and community, voluntary and local authority services that influence public health, including leisure, welfare, education, culture, employment and the environment (for example, urban parks, green gyms and allotments).[9] **Social prescribing can have an important impact on lifestyle and health** (Dayson et al. 2013), and may result in:

[9] However, the field of evidence on social prescribing appears to be quite limited: an Athens search of six electronic databases did not identify any peer-reviewed literature, although a Google search did pick up some papers, which

- increased awareness of skills, activities and behaviours that improve and protect wellbeing;
- increased uptake of arts, leisure, education, volunteering, sporting and other activities by vulnerable and at-risk groups; and
- increased levels of social contact and social support among marginalised and isolated groups.

It can also improve medical care, such as reduced levels of inappropriate prescribing of antidepressants for mild to moderate depression, reduced waiting lists and hospital attendance (in Rotherham, A&E attendance among those referred to social prescription fell by 21 per cent in six months).

4.1.4 Environmental factors

The effective design and use of the physical infrastructure of communities is key to healthier lifestyles – such as **creating an environment that is no longer obesogenic** (see also the Children and Young People paper in this series, section 3.2.3) and which is accessible and attractive to all ages: as the Royal Institute of British Architects notes on its website, 'the population is increasing and our society is growing older. Let's design buildings and communities that are mindful of the health impacts on residents.'

For example, the health and economic benefits of green space could be considerable – provision of greenspace to bring about a 1 per cent change in the sedentary population has been estimated to have an economic value ranging from £479–1442 million per year, depending on whether older people (75+) are included or excluded (Lavin et al. 2006). Neighbourhoods that are characterised as more walkable, either leisure-oriented or destination-driven, are associated with increased physical activity, increased social capital, lower overweight, lower reports of depression, and less reported alcohol abuse (Renalds et al. 2010).

Different neighbourhood designs can enable and encourage (or discourage) community connections (Lavin 2006; Leyden 2003; Cave and Coutts 2002). In particular, mixed-use and pedestrian-oriented neighbourhood designs promote social interaction through enabling residents to perform daily activities without the use of a car, and increased traffic volume reduces social interaction. With the advent of the new Healthy Towns initiative (NHS 2016a), there is an opportunity to shape the health of communities in a new way. Ensuring these new towns receive appropriate support and adequately evaluate the impact of the focus on health is crucial to setting a robust foundation for future replication and extension of the project elsewhere.

Local councils are also looking for ways in which to tackle obesity through **planning regulations** (TCPA 2016). NICE has produced guidance on 'Physical activity and the environment' (aimed at all organisations with responsibility for the built environment), which sets out a number of recommendations on environmental change to encourage physical activity, including planning changes and traffic engineering (NICE 2008). Planning powers are also being used to prevent the establishment of new fast-food takeaways, the number of which increased by 45 per cent between 1990 and 2008, and which are most densely situated in low-SES neighbourhoods – although this is best combined with other efforts such as working to provide incentives and rewards for improved content of takeaway menus in the context of community-wide healthy weight strategies (LGA 2016).

4.1.5 Focusing on prevention

Much of the literature emphasises the need to work in partnership with the community to optimise health outcomes. Understanding who are the main community actors, and where are the intervention points, underpins asset-mapping approaches (section 3.2). (The workplace is also a community-based place for interventions, but is dealt in the Workplace briefing paper in this series.)

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suggests that there is increasing interest in the concept. At present, the grey literature is more prevalent than the peer reviewed literature.

4.1.5.1 Faith-based institutions

A number of studies have looked at the potential role of faith-based institutions (churches, mosques, temples, etc.) in health promotion (Galiatsatos and Hale 2015; Hemming et al. 2016; Opalinski et al. 2015; Kaplan et al. 2006). Faith-based institutions have a unique link to their congregation, being stable, prominent and influential. A number of key factors are noted as fundamental to success:

- engagement of the leadership of the place of worship;
- the use of the structures of the place of worship as venues for education and intervention; and
- changes in policies of the place of worship.

Pre-existing relationships within the community and the prominent agenda-setting role played by faith leaders are important. Given the demonstrated **ability to pull people together, to motivate and to inspire**, there is great potential for faith-based interventions, and models developed through such interventions, to promote community health and address health inequalities.

4.1.5.2 Community pharmacies

In March 2015, (HSCIC 2015a), there were 11,674 community pharmacies in England, an increase of 1,802 (18.3 per cent) since 2005/6 (HSCIC 2015a). In recent years, government policy has promoted the role of the community pharmacy in public health – they are located in the heart of the community, have close contact with the public, and are relatively easy to access. Systematic reviews reinforce their potential in health promotion, with **evidence of effectiveness for managing conditions such as diabetes and hypertension, and for preventive services including weight management, osteoporosis prevention and smoking** (George et al. 2010; Brown et al. 2016a). However, further evaluation of effectiveness is needed for alcohol misuse and obesity (Brown et al. 2016a), and there is also a need for training to increase pharmacists' confidence in providing health-promotion services (Eades et al. 2011).

4.1.5.3 Schools

Schools are at the heart of communities, and can be the setting for a range of intervention approaches and delivery methods. These can include:

- educational approaches, with a defined curriculum on specific topics – such as assemblies focusing on alcohol, with information provided about the risks of alcohol, its damaging effect on families, communities, etc. These generally aim to improve awareness of the risks associated with the behaviour and encourage positive attitudes, while strengthening existing knowledge and skills;
- social-norms approaches that target specific behaviours, correcting misconceptions of behaviours;
- provision of life-skills training, such as around saying no to drugs, encouraging critical thinking, strengthening social skills and resistance strategies;
- peer-to-peer delivery of education; and
- community-systems approaches (Vicary et al. 1996).

In addition, there is good evidence around the universal provision of free school meals as benefiting children's health and performance (see Children and Young People, section 4.3.1.1).

4.1.5.4 Prevention interventions

Many studies report some behavioural outcomes (for example, Table E). However, evaluation of effectiveness is often limited, with little to no reporting of process evaluation, and a lack of consistency in identifying behavioural outcomes – again, a common problem for those interested in community-based health, and one dealt with in the final paper in this series.

Table E: Community interventions: lifestyle behaviours (examples)

Smoking	• Community pharmacy-delivered smoking-cessation interventions including behavioural support and/or NRT, are effective and cost effective, particularly when compared with usual care. However, the wide variety of interventions precluded the ability to evaluate effectiveness by specific types of interventions (Brown 2016b).
Alcohol	• Alcohol education in schools tends to have only small positive effects (Jones et al. 2007; Foxcroft et al. 2011) – see also Children and Young People, section 4.3.3.1 (case study 6)). • The role of alcohol education as part of a multicomponent alcohol intervention strategy has not been examined in detail (ISM 2009). • There is insufficient evidence to assess the effectiveness of community pharmacy-based interventions for alcohol reduction (Brown 2016b).
Drug use	• Skills-based programmes in schools help to deter drug use (Faggiano et al. 2008).
Sexual risk taking See also the Children and Young People paper, section 4.3.3.3	• Findings showed that parent-based interventions were inconsistently effective at reducing young people's sexual risk behaviours. Preliminary evidence suggests that effectiveness was greater in those studies aiming to affect multiple risk behaviours. However, this may be due to longer programme delivery and follow-up times; further evidence is required (Downing et al. 2011). • multicomponent school-based interventions, for example, including school policy changes, parent involvement, and work with local communities, are effective for promoting sexual health and preventing bullying and smoking (Shackleton et al. 2016).
Obesity	• Places of worship can be a successful mechanism for promoting health, specifically around nutrition, amongst black communities in the United Kingdom. An intervention in which one church took an active educational approach, and the control church only gave out a leaflet, found that the congregations of both establishments reported better nutrition and some weight loss (Adinkrah and Bahkta 2013). • Evidence from a heterogeneous group of weight-management interventions suggest that community pharmacy-delivered weight-management interventions are as effective as similar interventions in other primary-care settings, at least in the short term, and have similar provider costs (Brown 2016b).
Benefits of community engagement	• The findings of a rapid review suggest that the majority of 'engaged' individuals perceived benefits for their physical and psychological health, self-confidence, self-esteem, sense of personal empowerment and social relationships (Attree et al. 2011). • 21/24 (87.5%) had positively impacted health behaviours, public health planning, health service access, health literacy, and a range of health outcomes (Cyril et al. 2015). • the YES study found positive benefits from engaging and empowering youth to plan and implement youth violence prevention programmes (Reischl et al. 2011).

4.2 What is happening in practice? Practical evidence

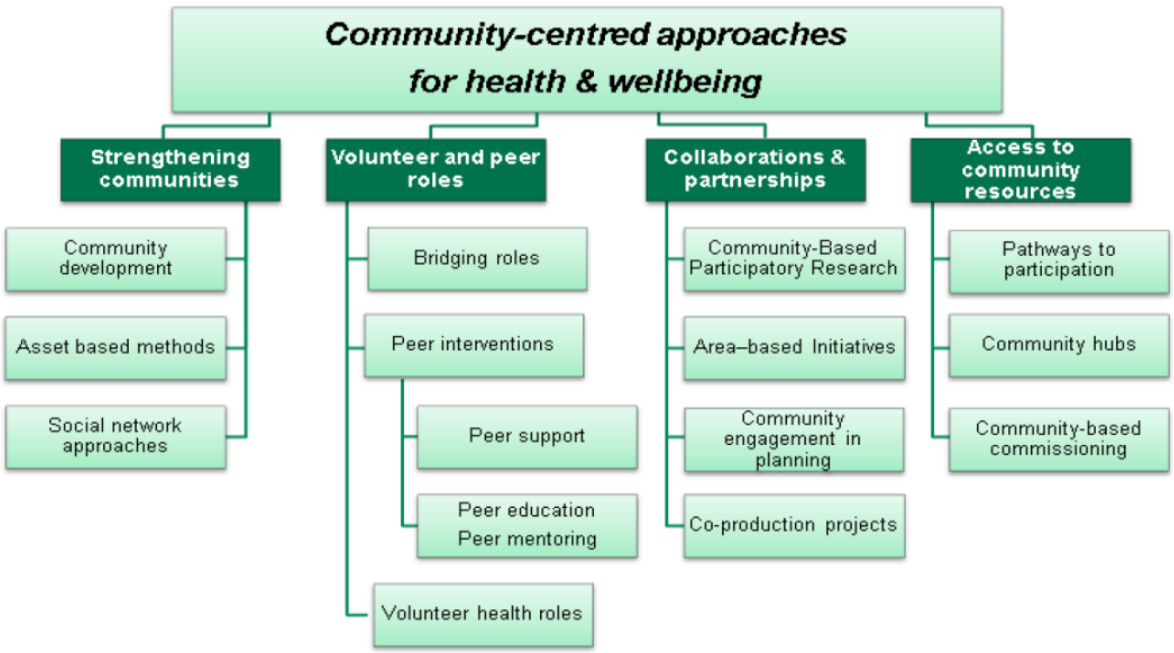
This section focuses on practical examples and case studies of projects in the United Kingdom and further afield, which illustrate the challenges and research areas identified. These examples are either community-based projects initiated by health organisations (such as CCGs) or community-based projects that are not established by the health service, but have (either intentionally or as a side effect) health benefit. The latter include, for example, engagement in community-health activities by local sports teams, such as Leyton

Orient Trust's mental-health initiative 'Coping through Football', or wider initiatives such as Fit Fans, a network of mentor-led aspirational community-based weight-loss programmes, delivered in conjunction with local professional and amateur sports clubs). However, as is noted many times in this briefing paper, many locally based activities are not adequately evaluated (for example, section 5.3).

Funding for the case-study initiatives is drawn from a wide range of sources, both public-, private- and third-sector, but **sustainability is often a challenge**. The key players listed in Annex 1 (and with more detail provided in the DebateGraph accompanying this series of papers) includes some funders – such as the United Kingdom's 48 accredited community foundations, which help individuals, families, entrepreneurs, companies, charities and public-sector bodies connect with, support and invest in their local communities.

The 13 examples have been chosen to **illustrate the breadth of activities** across the country, and to demonstrate the wide range of different approaches that can be taken to community-centred wellbeing set out in Figure 2.

Figure 2: Community-centred approaches for health and wellbeing



Source: PHE 2015a

Successful initiatives fall into multiple categories, but some specific examples are as follows (the case study number appears in brackets):

- **strengthening communities**: Bromley by Bow (4), Morgan Stanley Healthy London (9), Shape Up Somerville (11)
- **volunteer and peer roles**: Beacon Project (1), Neighbourhood Health Watch (6)
- **collaborations and partnership**: Well London (3), Box Chicken (7), Viasano (12)
- **access to community resources**: C2 Connecting Communities (2), Rosliston Forestry Centre (8).

4.2.1 Promoting community empowerment, engagement and participation

Case study 1: The Beacon project

The Beacon project on the Beacon and Old Hill Estate in Falmouth, Cornwall took place in the mid-1990s, and has been the inspiration for many other successful community-led development projects (including C2 Connecting Communities – case study 2). The physical conditions on the estate were very poor and the community was rife with vandalism, crime and extremely poor health. Health visitors Hazel Stuteley and Philip Trenoweth realised that the estate had been abandoned by the statutory agencies, and set out to re-engage and reconnect public services and the community (Stuteley 2002).

Five local tenants with the skills necessary to engage their peers were identified, who received training in submitting grant applications and forming and maintaining a constituted committee. This group subsequently set up a formal tenants and residents association. They produced a newsletter and had one-to-one chats with all households, informing residents about the plans for the estate. Sessions were then held for local people to establish the main problems affecting their health, such as crime, poor housing and unemployment. Meetings between residents and relevant agencies followed, which led to constructive re-engagement between residents and the local authority, police, and youth and social services.

By 2000, the overall crime rate had dropped 50 per cent and unemployment levels by 71 per cent. Housing improvements meant childhood asthma decreased by 40 per cent, postnatal depression fell by 70 per cent and breastfeeding rates increased by 30 per cent (Health Complexity Group 2016).

Vital to the Beacon Project's success was its collaborative approach, involving the community concerned from the very outset and continuously throughout the process. The project was recently relaunched, but further information is not yet available.

Case study 2: C2 Connecting Communities and the Newington housing estate

C2 Connecting Communities is a framework for creating transformative change in disadvantaged communities. C2 is evidence-based, both from experience in the field and reflective practices, and at its heart is community involvement and enabling a community voice. It forms a resident-led partnership that is supported, but not directed, by service providers. Residents are invited to a listening event where local issues can be discussed between them and service providers in a non-hierarchical way, and from this a resident-led partnership is formed and action based on the feedback begins.

In 2012 C2 was implemented in the Newington housing estate in Ramsgate, Kent, forming the resident-led Newington Big Local Partnership (NBLP 2014). NBLP has a 10-year plan for Newington that covers three thematic areas: health, wealth and happiness. An example of an NBLP success is reclaiming the Copse, a local 1.2-acre area of woodland. The green space has hosted many outdoor community activities and thousands of people visited in 2014/15. Another example is the Community Chef project, which supported residents cooking healthy meals on limited budgets. Feedback from participants showed that the cooking skills were very useful in their everyday lives, that their confidence increased and, that the shared activities helped community cohesion.

In September 2015 the Newington Big Local project was reviewed by residents. Achievements listed included dispelling the bad reputation that Newington had formerly had, bringing back community spirit, residents using and building new skills, and people feeling more confident, better at speaking out and sharing their ideas (NBLP 2015).

Case study 3: Well London

Well London – with the strapline 'Communities working together for a healthier city' – provides a framework for communities and organisations to partner to improve health and wellbeing, build resilience and reduce inequalities. Established with funding from The Big Lottery, it operates very locally, at neighbourhood level – to date, in 30 deprived areas across London, including Brent, Camden, Tower Hamlets and Southwark. It works with residents to establish local needs (rather than imposing ideas) and empowers them to come up with their own solutions and support each other to live healthier lives. It also integrates with and adds value to existing local programmes – partnering with grassroots organisations and involving people already embedded within (and trusted by) the local community. This partnership approach builds community spirit and connects people of all ages, and increases individual and community knowledge and skills. This also – crucially – builds capacity, which creates sustainability.

Activities supported by Well London include arts and crafts workshops, the use of 'community activators' to encourage people to come to physical-activity sessions (for all ages), establishing a healthy local café (which also runs cooking sessions and gives help in budgeting) and a fruit and vegetable stall, and running a local women's lifeskills group. The projects are all promoted locally – for example, by GPs directing patients to physical-activity opportunities. Research indicate a significant impact – for example, 83 per cent of participants had been helped to increase physical activity, 63 per cent had been helped to gain access to healthy food, and 80 per cent reported improved understanding of mental wellbeing.

Evaluation (with the University of East London) has been ongoing (e.g. Well London / UEL 2013), focusing on the nature of and impact on participants (including a longitudinal cohort study), and has been used to develop the project further. Currently, plans are being developed for evaluating the project as it scales up, including further evidence of effectiveness and cost–benefit, and how the Well London framework could be scaled up across larger geographical areas.

4.2.2 Social networks, social isolation and social prescribing

Case study 4: Social prescribing at the Bromley by Bow Centre

The Bromley by Bow Centre is a charity in a deprived area of Tower Hamlets, East London, that provides a distinctive, holistic and easily accessible range of integrated services in one place. The services available stretch from health care for local residents to opportunities to set up your own business; from support with credit-card debts to becoming a stained-glass artist; from learning to read to getting a first job.

The Bromley by Bow Centre was founded on the principles of social prescribing. Patients are referred to non-medical sources of support through local services, programmes and projects, such as healthy-eating groups or arts and crafts, befriending services and to health, wellbeing and healthy lifestyles support, social welfare or employment programmes. GPs, nurses, health-care assistants and reception staff often have an understanding of the wider needs of their patients, and social prescription enables them to improve overall patient health and wellbeing.

An impact report found significant benefits, for example 80 per cent of people of people who took part in the PoLLeN project (People, Life, Landscape and Nature – using social and therapeutic horticulture to improve wellbeing through engagement in the natural environment) reported improved physical and mental health over a 12-month period, and 58 per cent of people of people who completed the My Weight course lost 5 per cent or more of their body weight (BBBC 2011). A report into the effectiveness of the Centre has also been commissioned jointly with Public Health England.

The Bromley by Bow Centre has a significant track record of developing and sharing innovative practice both nationally and internationally. It has contributed to a number of national policy initiatives, including the development of the national Sure Start and Children's Centre programme, the Health Trainer initiative, Tackling Health Inequalities policies and the Healthy Living Centre programme.

Case study 5: Local Area Coordination in Derby

Since 2012, small-scale local intervention has been delivering dramatic health improvements in Derby through Local Area Coordination (LAC) projects. Local area coordinators work autonomously, getting to know people at risk of requiring formal services, supporting people who are vulnerable as a result of physical/learning disability, mental-health issues, sensory impairment or age-related difficulties. They give support with (for example) building relationships with others in the community, accessing a range of information and services, building confidence, and helping to envision what a good life looks like and proving support in organising the steps to achieve it. By working together, they are able to focus on an individual's main priorities – for example, a resident wanting to get out of his flat and make some friends, or helping people to feel safe, secure and more confident.

Evaluation by the University of Derby showed that, when implemented according to its core values, principles and methodology, LAC produces very positive outcomes. Over a period of 10–12 months, working with approximately 50 people, the evaluation estimated there had been an £800,000 saving to health and social care as a result of people's use of the formal system being delayed or diverted entirely (Frisby 2015). An evaluation report from March 2016 showed that LAC service users reported improved health and wellbeing, less social isolation, and increased confidence and independence (Think Local Act Personal 2016).

LAC has also been rolled out in a diverse range of UK locations, including Cumbria, Gloucestershire, the Isle of Wight, Leicestershire, Neath Port Talbot, Suffolk, Swansea, Thurrock and Waltham Forest.

Case study 6: Neighbourhood Health Watch

The Neighbourhood Health Watch model is the brainchild of a local GP who decided that, although many communities already do much to help one another, more support would empower them to do more. Each NHHW brings together the NHS, Police, Fire and Rescue, the voluntary sector and the local authority to enable communities to address health and wellbeing needs, such as reducing social isolation, increasing resilience, connecting community support for health, and promoting volunteering. They vary in size from just a few houses to all the houses in a local area.

Each NHHW is led by a local resident – a voice for the community – organising regular meetings to discuss issues and decide on action. It provides a setting for conversations between community members (some of whom may have good knowledge of relevant health areas) and acts as a 'bridge' to information and service providers (including charities and local businesses) who are trying to access the community, but find it hard to reach those most in need. NHHW 'good neighbours' undertake individual actions such as clearing snow, offering lifts to shops or medical appointments, or checking all is well with people who live alone.

The initial pilot sites were monitored closely to identify mechanisms of development and to identify key success characteristics. The realities of each site proved to be different, so each NHHW has a different focus (in Budleigh, for example, a 'food neighbours' scheme encourages people to cook an extra portion of food for someone without access to hot food).

The project has been evaluated by SW Academic Health Science Network (2015), but data-gathering is challenging because it is volunteer-led and formal evaluation would change the role of the volunteers (making it more onerous) and the voluntary nature of the project. NHHWs have also struggled to continue when coordinators move on to another role.

NHHWs currently operate independently (an initial quarterly steering group meeting no longer takes place), but a simple model has been developed that establishes key core components, allowing NHHWs to be established elsewhere (NHHW 2016).

4.2.3 Environmental factors

Case study 7: Box Chicken project: creating new, healthy takeaway services

Fast-food outlets that serve unhealthy takeaway food are very common in many areas of the United Kingdom, and often especially so in areas with higher levels of deprivation – chicken shops, in particular, are often a place where young people congregate when they have nowhere else sociable to go. In 2012, the charitable foundation and trust Shift set out to tackle this by working collaboratively with partners across public health, fast food and nutrition to redesign these environments (Shift 2016). The work involves creating new takeaway services serving tasty, affordable food that is also healthy, and working with existing fast-food outlets and local public-health teams to make the food already available healthier. Shift wants to make healthy food options just as visible, tasty and cheap as the unhealthy options.

Shift first completed a year of research and consultation in London communities and in October 2013 opened a mobile food outlet called Box Chicken, serving healthy and affordable chicken meals over a four-week period in Newham, East London. This pilot received overwhelmingly positive feedback, and was followed by further trials that were all evaluated (Shift 2015). Using this experience and the evaluation feedback, Shift is now working on a proposition for a new UK healthy fast food branch, and has also developed a methodology and digital tool that assesses and maps fast-food outlets in specific areas, designs health improvements to these outlets and then assesses these improvements and their health impact. Shift is currently working with a public-health team in East London to refine and test this service and hopes to roll it out across the United Kingdom.

Case study 8: Transforming the local environment: The National Forest and Rosliston Forestry Centre

The National Forest is a project to create a forest, 'woodland by woodland', across a 200-square-mile region of the Midlands (National Forest 2014). The project began 25 years ago, during which time forest cover has risen from just 6 per cent to 20 per cent (the aim is for a third), and 8.5 million trees have been planted. The Forest is growing across parts of Derbyshire, Leicestershire and Staffordshire, an area within which some 200,000 people live. In 2015, the Forest itself had 7.5 million visitors, and practically every child living within the Forest has been involved in it at some point through school. To date, most of the funding for the National Forest Company (the organisation charged with creating The National Forest) has been from Defra; the NFC has recently become a charity, and will be focusing increasingly on local and national partnerships for sustainability.

The Forest area is becoming an increasingly popular place to live and work, with the Forest itself providing 'social glue' for the local community. Health and wellbeing, as well as improving the local environment, underpins many initiatives, including planting/tending trees and the many walking and cycling trails (including 40 miles of new bicycle trails put in place by cycling charity Sustrans, and the development of a 75-mile walking trail, the National Forest Way).

Rosliston Forestry Centre, for example, runs a wide range of activities to encourage people of all ages to get out and about – tackling social inclusion as well as physical health: 'Teddy Walks' aimed at young children, Nordic Walking, walking clubs, Tai Chi, pushchair walks and senior cycling. There are drop-in activities in the school holidays and a holiday club. The Centre works with community groups, disability organisations and other charities, corporate groups and with schools.

Although formal evaluation is sometimes difficult to achieve without disrupting the effectiveness of the activities, it is evident from striking qualitative evidence that this is a hugely beneficial partnership for the health and wellbeing of those who live and work in the Forest.

4.2.4 Focusing on prevention

Case study 9: Morgan Stanley Healthy London

In February 2015, investment bank Morgan Stanley launched its Healthy London programme, aiming positively to impact children's health in Poplar, East London, just a short distance from its flagship London headquarters. Morgan Stanley began by partnering with local charities and with Dr Paul Sacher and C3 Collaborating for Health. Six months was spent listening to local residents' concerns, challenges and aspirations for their children's health, and a detailed asset-mapping of local physical-activity and food options was undertaken using the CHESS® tool (C3 Collaborating for Health 2015a). The recommendations from this engagement process drove the planning and execution of the Healthy London project.

A number of key themes emerged from the conversations with local residents. Language barriers and inaccessible information were identified as obstacles for families accessing services such as health care. There was also a desire among residents to gain better understanding of health issues, especially related to nutrition. The overabundance of fast-food outlets and the increasing rates of childhood obesity locally were seen as problems by residents. The findings highlighted the importance of fun, healthy play for children, but many residents commented that opportunities and facilities are limited in the community – physical-activity opportunities for children have fallen over the last generation.

Today, through the Healthy London programme, thousands of children and parents have gained access to health education and a community health adviser, there are three different playgrounds being built (and events will be held in each, supported by local residents), and healthy meals, nutrition advice, healthy lifestyle education and exercise programmes are available – resources that are crucial to children getting as healthy as possible a start in life (Morgan Stanley 2015).

Case study 10: Go Golborne

Go Golborne (RBKC 2016) is a community-based healthy lifestyle initiative, launched in 2015 and due to continue for at least three years, part of the Royal Borough of Kensington and Chelsea's efforts to improve child health. Golborne is one of the most deprived areas of the borough (and London).

The methodology for the initiative is inspired by the EPODE model (see also case study 12 below and in the Children and Young People paper in this series, section 4.3.1.4, case study 5) – an international programme to prevent childhood obesity, that involves establishing a network of local organisations to make it easier to eat healthily and take physical activity in all settings where children and families live, learn and play. The initiative will run a different community-wide social marketing campaign every six months, with other activities including environmental improvements to support healthy choices (such as installing playground equipment for older children), training and capacity building (workshops on key nutrition and physical activity topics, and expert input to develop healthy-eating policies), and increased support from school nurses for health promotion. A scheme of small grants for local community organisations has also been established. Cross-departmental working is encouraged – for example, the Council is supporting market traders to accept Healthy Start vouchers for fruit and vegetables. An award scheme to support and recognise good practice amongst community settings is being piloted.

Go Golborne's first campaign – 5ADAY – began in November 2015. Over 1,500 children took part in a challenge to eat 5ADAY for 20 days, cooking workshops were held in a local café, and a 5ADAY magazine has been distributed to parents. 5ADAY grants have also been awarded, enabling the Venture Centre to provide fresh fruit and vegetable snacks for children, and providing funding for local volunteers to run after-school food growing/cooking clubs for families.

At this early stage, robust evidence of impact is not yet available – an initial independent evaluation by the University of Kent is due in September 2016, but feedback to date – from local agencies, children and parents – has been positive.

Case study 11: Collective impact in the United States – Shape Up Somerville

Shape Up Somerville (SUS) is a campaign across the town of Somerville, Massachusetts, to 'build and sustain a healthier, more equitable community'. It began as a study to improve levels of overweight and obesity among schoolchildren but now encompasses the whole community (a 'collective impact' approach), focusing particularly on lower socioeconomic groups (Shape Up Somerville 2013).

Key to its success is strong partnerships with civic and community stakeholders. It is run by a director and coordinator supported by a steering committee including city departments (schools, housing infrastructure etc.), community-based groups (such as early years organisations and community health providers) and some private-sector organisations. The mayor has supported SUS since coming to office in 2004 – and SUS is now embedded as a conduit between community and city.

Three formal studies of children's weight have been carried out. The first survey (2003–4) found that the BMI percentile for first- to third-graders fell by approximately one point compared with comparison communities. The 2010–11 study saw a decrease in obesity from 30 to 28 per cent, with 17 per cent of students moving out of the obese category into a healthier weight category (Shape Up Somerville 2012–13).

SUS today has three main aims: access to healthy food (including a Mobile Farmer's Market and a 'healthy restaurant' programme), health equity and active living. Future plans include ensuring programmes reach all age-groups and cultures, and tackling health inequality (in 2011, 35.6 per cent of eighth-grade Hispanic children and 23.6 per cent of white children were obese).

There are challenges of funding, as initiatives are reliant on grants and funders for implementation (such as the Robert Wood Johnson Foundation), and the academic partners that produced the studies on the BMI data are no longer involved (C3 Collaborating for Health 2015b).

Case study 12: A whole-of-society example – Viasano in Belgium

Viasano (the 'healthy way') is an ongoing, community-based programme to tackle obesity and overweight in children that has been rolled out in 20 cities across Belgium. It uses EPODE methodology (Borys et al. 2012) to embed healthier lifestyles over time – working with the whole community, not just with children themselves, to create a local environment that supports health.

The programme is run at local level by a project manager with a local steering committee (teachers, health professionals, local media, paediatricians, local associations and residents) develop Viasano ideas, which are delivered by local people. The private sector is also involved (regulated by an ethical charter) – such as grocers providing healthy products for events.

In Mouscron and Marche-en-Famenne, a study was undertaken on children aged 3–6 to compare changes in BMI with the rest of the country's French-speaking community. In 2007, 13.6 per cent of the children were obese/overweight; by 2010 this had fallen to 11.2 per cent – a relative decrease of 18 per cent. In 2007, 4.1 per cent had obesity; by 2010 this fell to 3.8 per cent – a relative decrease of 7 per cent. In contrast, rates remained stable in the comparison population (Vinck et al. 2015).

Recent actions include: a campaign to improve the healthiness of school lunchboxes, workshops on many aspects of food (including for nursery workers on the importance of eating fruit and vegetables, and a workshop on healthy eating with little money); renovation of green space in an area of social housing; and 'A Week to Eat Better and Move More' – including local restaurants providing healthy food, takeaway fruit at school canteens, sporting activities for children, and talks on physical activity (Viasano 2016).

The main challenge is to make the programme sustainable – changes to habits and health do not happen overnight, so the initiative must be long term, embedded deep within the local community.

5. Challenges and gaps

There is plenty of narrative about prevention and working in communities, but it appears that movement to date has been limited. The reasons for this are many and varied – but solutions may be more simple than we think, if the system (and the human and physical assets within it) can be put to good use.

5.1 Comparing like with like?

Although the volume of literature available on communities is vast, the range of definitions and lack of clarity in which definition is being applied mean that the use of the concept of 'community' hides greater diversity than is immediately apparent. There is a need for a more systematic approach to geographical community interventions, with a robust framework for identifying and delimiting communities, which will **enable cross-community comparability**.

5.2 Promoting asset-based approaches to community health

One of the key challenges is **ensuring that people in the community are supported and enabled to participate effectively**. Organisations working in and with communities have to become responsive to what matters to people within communities. NICE has published a number of guidelines defining good practice in this area – for example, guidance to local authorities on how to engage with people in their local areas (NICE 2014) and, most recently, guidelines on 'Community engagement: improving health and wellbeing and reducing health inequalities' (see section 3.2.3). However, while much of this guidance would have general applicability to people working within communities, its use remains largely in a health silo, failing to reach the non-clinical, community-based organisations that are essential to leading healthy lives. Consideration needs to be given as to how best to support diverse organisations to learn from existing best practice in community engagement, going well beyond the traditional public-health arena to involve 'unusual suspects' who have an impact on health. Communities and residents need to be supported, nurtured and inspired first to develop the confidence to talk to their local authorities, housing associations, and decision-makers to tell them what is important to them, and secondly to take action themselves. Providers of the assets themselves – such as local sports associations – may also need advice in how best to target their communities.

However, **fully stretched public-health teams may lack the skills and time** that would enable this to take place. Despite now being located with council services, there is often limited knowledge in how to make connections between, and access resources from, other departments to make public health everyone's business (see also the final paper in this series). Beyond this, the creativity and innovation needed to engage and empower communities and workplaces effectively is often not evident – although there are some exemplars (see also section 5.4 below).

5.3 The need to improve evaluation of projects

Despite the large amount of literature that has been collected on healthy communities, there is a serious **lack of evidence about what works** to promote community-health outcomes in the peer-reviewed literature.[10] Many systematic reviews focus on describing the problems, talking about the relationships between deprivation and health outcomes, and there has been a lack of focus on prevention. Where studies are available, they generally focus on small sub-populations (a community of interest) and there is limited consideration of geographical communities, and working with diverse populations. The arena is made more complex by the emergence of new technology and improved transport links, meaning that projects working on communities are often unable to disaggregate findings robustly to consider the neighbourhood effect as a distinct phenomenon.

[10] This is also an important issue in the other areas covered by these briefing papers – see, for example, Workplace (section 5.5.2), Early Years / Children and Young People (section 5.4) – and is covered in the final paper in the series.

As the previous sections have shown, greater clarity is needed about the scope of interventions, the desired outcomes, and the audiences covered by the interventions. A number of projects have looked at establishing metrics for measuring the impact of community-health improvement initiatives that can be utilised across population groups. A US report, for example (CDC 2013), noted that 'an accurate portrait of a community's health can always help residents, community groups, and professional organizations prioritize prevention activities and build coalitions to make improvements and address existing problems'. This report highlighted the range of metrics that can be used to facilitate comparisons, and promote collaboration through a shared understanding of the factors that influence health. Interestingly, many of these factors focused on describing health status – for which, in the United Kingdom, Public Health England provides a good repository of appropriate data.

One of the key challenges appears to be confusion about what community empowerment really means, and how to put it into practice. The evidence search found little hard data demonstrating robust measurement of interventions that have been driven by communities. There is a need for innovative approaches to measure the impact of community empowerment on health outcomes to support and inform future activity. Many of the reviews accessed in the course of this study commented on the challenges associated with defining the population level, and that this in turn effected the ability to generalise learning based on the findings from studies. Community empowerment and prevention is, it appears, hard to measure. There is a need to develop innovative approaches to measure community engagement and empowerment and their impact on health outcomes in a more rigorous way (Cyril et al. 2015).

The Centre for Public Health at Liverpool JMU University has produced a useful resource (Bates and Jones 2012) for considering how best to monitor and evaluate community projects. This report, produced to inform ongoing and future community-based green projects, could also be used to inform a more consistent approach to the monitoring and evaluation of other community projects, providing links to resources and tools that provide practical advice and more detail on how to monitor and evaluate projects. Given that one of the challenges raised in this briefing paper is the need to be clear on what basis replication is being recommended, this suggests that consideration needs to be given to how best to support the robust evaluation of community projects to support cross-comparisons of interventions and decisions about future replicability of projects, particularly in a resource-constrained world.

Ensuring robust evaluation is built into all community projects remains a challenge. Not all projects are destined to be written up in the academic literature. The grey literature proved to be more rewarding, highlighting a number of small-scale projects, which on initial investigation seemed promising. However, many of these projects ran only for a short period of time, were not scaled up or robustly evaluated, and have often ceased activity. Publicising good practice needs to become a priority – and the case studies in section 4.2 are a good place to start.

A further challenge is that evaluation takes time, effort and expertise – and a requirement to gather information could threaten the viability of some initiatives where they are led by volunteers with little spare time to devote to data gathering.

Finally, **there is a danger of a vicious circle being created, with the lack of evidence forming a barrier to action and preventing the building of the evidence base**. But there is a real opportunity here: not only will a successful and carefully evaluated initiative, facilitated by cross-sectoral working (funders, academics, implementers and local organisations and residents), benefit the community within which it is run, it has the potential to be an exemplar for others.

5.4 Sustainability

Lack of resources – both human and financial – remains a constant refrain, with even the most successful and well-known programmes struggling to become sustainable (see, for example, MEND (highlighted in the final paper in this series) and Shape Up Somerville (a US example – case study 11). Grants for many new initiatives are provided on a project-by-project basis over short timescales and with only short-term

objectives, rather than building capacity within the community itself to continue the programmes and create long-term change from within.

Programmes are often siloed – for example, tackling obesity without looking at other lifestyle issues – and, with shrinking envelopes of resource available for funding health-promotion initiatives, consideration needs to be given to how best to maximise the impact of funding across the public-health landscape. There is a need for a public-health workforce skilled in seeking out limited funding, willing to partner with local authorities, charities and others to find long-term solutions – the work of Professor Kate Ardern, director of public health for Wigan, and her team, has been an exemplar here.

However, once community assets have been successfully unleashed, **initiatives may prove to be more sustainable than was anticipated**.

5.5 Acting on what we know works

Social prescribing has the potential to become a fully integrated community pathway for health and wellbeing. Yet, despite its long history (Bromley by Bow, for example, has been in practice for about 30 years – case study 4, above) and despite being well known for its success, it has **yet to achieve mainstream status across the United Kingdom**. Investigating why this is the case – and overcoming the barriers – will be crucial in replicating (or translating) successful models across the country. (This is discussed further in the final paper in this series.)

5.6 A failure of imagination

Finally, and crucially, there has been a **failure of imagination and a consequent dearth of action**. The health system – both the NHS and public health – are severely overstretched, and time is not being given to take a step back to reflect on how to prevent the rise in chronic diseases that is threatening to engulf the health service (10 per cent of NHS expenditure is already spent on treating diabetes and its complications – a condition around half of cases of which could have been prevented or delayed). Despite calls to the contrary in, for example, the Five Year Forward View, too often health issues are siloed, rather than a holistic, 'causes of the causes' approach being put in place – expecting people to become healthy while living, learning and working in the same environment that made them ill in the first place.

Can we make the case for health, rather than sickness, and **change the medical paradigm in communities**? Currently, spending on the NHS is ringfenced and that for public health is not – and there is little call for a different focus and an alternative (less medicalised) offer in health – but this is not surprising, as the public do not know that models such as that spearheaded by Bromley by Bow could be a reality in their local community.

6. Talking points

- The big question is: how can we create a system in the environment in which we live, learn, work and play that creates and fosters health?
- How do we move away from a medical paradigm, in which people are rooted in doctor/patient relationships (undermining their ability to take control of their own health and wellbeing)?
- What are the best ways to activate assets within local communities, which are at the heart of sustaining change over the long term?
- How do we engage fully stretched public-health team in investing skills and time to make connections across departments and to engage and empower communities?
- There is a large gap between what society provides to improve health and what communities want. What would happen if the design, implementation and evaluation of health interventions became something we do with communities rather than to them?
- What are the best ways to gather evidence on 'what works'?

- How can ‘what works’ best be translated appropriately for different communities?
- Would using a lifecourse lens overlaid over the concept of place be helpful in addressing whether there are subgroups within the population who are particularly vulnerable to the effects of neighbourhood characteristics? – e.g. programmes directed at the health of older people, to be ultimately effective, will need to work with those improving health of younger people – particularly conditions (such as obesity or smoking-related diseases) that have their origins in risk factors in earlier life.

Annex 1: Key players

There are many organisations – including professional societies, academic institutions, think tanks, charities, foundations, networks, statutory bodies and funders – working in community health and empowerment. The resources listed below are selected from the large number available, and a short description, URL and (where appropriate) important publications of the organisations appear in the DebateGraph mapping that accompanies this scoping project. (Contact hester.rice@c3health.org for more information.)

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- Aesop
- American Academy of Child and Adolescent Psychiatry
- Amplify Northern Ireland
- ASH – Action on Smoking and Health
- Awards for All (Big Lottery Fund)
- Barnado's
- Beat the Street
- Big Lottery Fund
- Bill and Melinda Gates Foundation
- British Association for Early Childhood Education
- British Heart Foundation
- British Nutrition Foundation
- Bromley-by-Bow Centre
- Business in the Community
- CEDAR – Centre for Diet and Activity Research
- Centre for Ageing Better
- Centre for Longitudinal Studies
- CFIW – Community Foundation in Wales
- Children and Young People Scrutiny Committee
- Children and Young People's Health Outcomes Forum
- Children and Young People's Services Committees
- Children's Society
- Collaborate
- Community Catalysts
- Community Development Charter for Health (NHS Alliance)
- Community Energy Wales
- Community Health and Learning Foundation
- CommunityNI (NICVA)
- Connecting Communities C2 (Health Complexity Group)
- Department for Communities and Local Government
- Department for Education
- Department of Health
- Early Intervention Foundation
- Economic and Social Research Council
- EPODE
- Faculty of Public Health
- FitFans
- Food Coops
- Groundwork Community Spaces Programme
- Health and Social Care Information Centre
- Health Behaviour in School-Aged Children Network
- Health Complexity Group
- Healthy London Partnership (NHS)
- Healthy New Towns (NHS)
- HELP – Health Empowerment Leverage Project
- HENRY – Health Exercise and Nutrition for the Really Young
- In Control
- Inclusive Change
- Inclusive Neighbourhoods
- Institute of Alcohol Studies
- International Diabetes Federation
- Jamie Oliver Food Foundation
- Joseph Rowntree Foundation
- LAC – Local Area Coordination Network
- LEAP – Lambeth Early Action Partnerships
- LGA Knowledge Hub
- Living Streets
- Local Government Improvement and Development
- Locality
- Medical Research Council
- Mental Health Foundation
- MIND
- My Community
- MyTime Active UK
- National Centre for Health and Clinical Excellence (NICE
- National Foundation for Educational Research
- National Institute of Mental Health
- NAVCA – National Association for Voluntary and Community Action
- NCVO – National Council for Voluntary Organisations
- Neighbourhood Health Watch
- Nesta
- New Local Government Network
- NHS Alliance
- NICVA – Northern Ireland Council for Voluntary Action
- Nutrition Society

- Pembroke House
- Prevention and Early Intervention Network
- Public Health England
- RAND Europe
- Robert Woods Johnson Foundation
- Royal College of Midwives
- Royal College of Nursing
- Royal College of Paediatrics and Child Health
- Royal College of Psychiatrists
- Royal Society for Public Health
- Save the Children
- SCDC – Scottish Community Development Centre
- SHINE HIT – Supporting Healthy Inclusive Neighbourhood Environments
- SPOTLIGHT
- Street Games
- Supporting Communities
- Sure Start
- The Young Foundation
- Think Local Act Personal
- Thrive Plymouth
- Tinder Foundation
- Trussell Trust
- Tudor Trust
- UKCF – UK Community Foundations
- Understanding Community Health (Health Profiles)
- Voice4Change England
- WCVA - Wales Council for Voluntary Action
- Well London
- Wellcome Trust
- What Works Centre for Wellbeing
- World Health Organization

Annex 2: Evidence tables

Table 1: Engagement and participation

Intervention	Overview	Reference	Conclusions
Effectiveness of participatory approaches	Systematic review. 17 electronic databases were searched and inclusion/exclusion criteria and quality appraisal criteria applied. 5,451 references were identified, reduced to 2,155 once duplicates were removed. Only eight papers covering seven studies were relevant and included in the analysis. Only two studies met more than half of the relevant quality-appraisal criteria.	Evans et al. 2010	The studies fell into two distinct groups: four used qualitative methods to illustrate the complexities of effective community participation; three claimed success for their participative initiative without providing adequate evidence to substantiate such claims. This systematic review demonstrates that there is very little evidence in the peer-reviewed literature of participatory approaches by UK public-health units or of such approaches having any noteworthy impact on health and social outcomes.
Impact of community engagement on individuals	Rapid review, guided by NICE's public-health methods manual, adapted to suit the diversity of the evidence. A total of 22 studies were identified containing empirical data on subjective experiences of community engagement for individuals	Attree et al. 2011	The findings of the rapid review suggest that the majority of 'engaged' individuals perceived benefits for their physical and psychological health, self-confidence, self-esteem, sense of personal empowerment and social relationships. Set against these positive outcomes, however, the evidence suggests that there are unintended negative consequences of community engagement for some individuals, which may pose a risk to wellbeing. These consequences included exhaustion and stress, as involvement drained participants' energy levels as well as time and financial resources. The physical demands of engagement were reported as particularly onerous by individuals with disabilities.
Community engagement in health initiatives	Systematic review – to examine the magnitude of the impact of community engagement (CE) on health and health inequalities among disadvantaged populations, which methodological approaches maximise the effectiveness of CE, and components of CE that are acceptable, feasible, and effective when used among	Cyril et al. 2015	21 of the 24 (87.5%) studies had positively impacted health behaviours, public-health planning, health-service access, health literacy, and a range of health outcomes. Key CE components that affected health outcomes included real power-sharing, collaborative partnerships, bidirectional learning, incorporating

Intervention	Overview	Reference	Conclusions
	disadvantaged populations. 24 studies met inclusion criteria.		the voice and agency of beneficiary communities in research protocol, and using bicultural health workers for intervention delivery. The findings suggest that CE models can lead to improved health and health behaviours among disadvantaged populations if designed properly and implemented through effective community consultation and participation.
Effectiveness of community health worker-led interventions	Systematic review of literature from 1998 to 2008. It included 53 studies on outcomes of community health worker (CHW) interventions and six on cost or cost-effectiveness.	Viswanathan et al. 2010	For outcomes, limited evidence (five studies) suggests that CHW interventions can improve participant knowledge compared with alternative approaches or no intervention. The review found mixed evidence for participant behaviour change (22 studies) and health outcomes (27 studies), and low or moderate strength of evidence suggesting that CHWs can increase appropriate health-care utilisation for some interventions (30 studies). Six studies with economic information yielded insufficient data to evaluate the cost-effectiveness of CHW interventions relative to other interventions.
Community behavioural norms as a challenge for evidence-based smoking-cessation programmes	Retrospective cohort design using propensity score matching of Nurse-Family Partnership (NFP) clients and local-area matched comparison women who smoked cigarettes in the first trimester of pregnancy. Birth certificate data were used to classify smoking status. The main outcome measure was smoking cessation in the third trimester of pregnancy. Multivariable logistic regression analysis examined, over two time periods, the association of NFP exposure and the association of baseline county prenatal smoking rate on prenatal smoking cessation.	Matone et al. 2012	Following statewide implementation across Pennsylvania, programme recipients of NFP demonstrated increased smoking cessation compared to comparison women, with a stronger program effect in later years. The significant association of county smoking rate with cessation suggests that community behavioural norms may present a challenge for evidence-based programmes as models are translated into diverse communities.

Table 2: Place-based interventions

Intervention	Overview	Reference	Conclusions
Community-based restaurant interventions	Systematic review that searched all years of PubMed and Web of Knowledge through January 2014 for original articles describing or evaluating community-based restaurant interventions to promote healthy eating. This review included 27 interventions described in 25 studies published since 1979. It extracted summary information and classified the interventions into nine categories according to the strategies implemented. Summary scores were developed to determine the level of evidence (insufficient, sufficient, or strong) supporting the effectiveness of each category.	Valdivia Espino et al. 2015	Most interventions took place in exclusively urban areas of the United States. The most common intervention categories were the use of point-of-purchase information with promotion and communication (n = 6), and point-of-purchase information with increased availability of healthy choices (n = 6). Only the latter category had sufficient evidence. The remaining eight categories had insufficient evidence because of interventions showing no, minimal, or mixed findings; limited reporting of awareness and effectiveness; low volume of research; or weak study designs. No intervention reported an average negative impact on outcomes. Conclusion: Evidence about effective community-based strategies to promote healthy eating in restaurants is limited, especially for interventions in rural areas. To expand the evidence base, more studies should be conducted using robust study designs, standardised evaluation methods, and measures of sales, behaviour and health outcomes.
Community pharmacies' role in promoting health in communities	Systematic search of international peer-reviewed literature. The search period was from 1 January 1991 to 30 July 2009. Overall, it reviewed 115 articles on an abstract level and retrieved 45 of those as full-text articles for background information review and inclusion into the evidence report. 32% were from the United Kingdom.	George et al. 2010	Evidence of effectiveness for community pharmacy/ community pharmacist interventions exists for lipid, diabetes and hypertension management, and for preventive services such as weight management, osteoporosis prevention and flu immunisation services. Factors found to impede the growth of community pharmacists are insufficient integration of community pharmacist input into health-care pathways, poor relationship among pharmacists and physicians, lack of access to patient information, time constraints and inadequate compensation.

Intervention	Overview	Reference	Conclusions
Pharmacy and public health	10 electronic databases were searched. There was no restriction on language or country. Supplementary searches included website, grey literature, study registers, bibliographies and contacting experts.	Brown et al. 2016a	Community pharmacy-delivered interventions are effective for smoking cessation, and demonstrate that the pharmacy is a feasible option for weight-management interventions. Given the potential reach, effectiveness and associated costs of these interventions, commissioners should consider using community pharmacies to help deliver public-health services.
School-based health promotion	Systematic review – searched 12 databases to identify reviews published after 1980. Data were reviewed by two researchers. Quality was assessed using a modified Assessing the Methodological Quality of Systematic Reviews checklist and results were synthesised narratively	Shackleton et al. 2016	The syntheses suggest that multicomponent school-based interventions – for example, including school policy changes, parent involvement, and work with local communities – are effective for promoting sexual health and preventing bullying and smoking. There is less evidence that such intervention can reduce alcohol and drug use. Economic incentives to keep girls in school can reduce teenage pregnancies. School clinics can promote smoking cessation. There is little evidence that, on their own, sexual-health clinics, antismoking policies, and various approaches targeting at-risk students are effective.
Drug use interventions in schools	Systematic review. RCTs and CCTs evaluating school-based interventions designed to prevent substance use were reviewed. Data were extracted independently by two reviewers. Quality was assessed. Interventions were classified as skills, affective, and knowledge focused	Faggiano et al. 2008	Compared with usual curricula, skills-based interventions significantly reduce marijuana use and hard drug use, and improve decision-making skills, self-esteem, peer pressure resistance and drug knowledge. Compared with usual curricula, affective interventions improve decision-making skills and drug knowledge, and knowledge-focused programmes improve drug knowledge. Skills-based interventions are better than affective ones in improved self-efficacy. No differences are evident for skills vs knowledge-focused programmes on drug knowledge. Affective interventions improve

Intervention	Overview	Reference	Conclusions
			decision-making skills and drug knowledge to a higher degree than knowledge-focused programmes.
Community pharmacy and health promotion	Systematic review. Five electronic databases were searched for articles published in English between 2001 and 2010. Titles and abstracts were screened by one researcher according to the inclusion criteria. Papers were included if they assessed pharmacy staff or consumer attitudes towards pharmaceutical public health. Full papers identified for inclusion were assessed by a second researcher and data were extracted by one researcher	Eades et al. 2011	Pharmacy staff: Most pharmacists viewed public-health services as important and part of their role, but secondary to medicine-related roles. Pharmacists' confidence in providing public-health services was on the whole average to low. Time was consistently identified as a barrier to providing public health services. Lack of an adequate counselling space, lack of demand and expectation of a negative reaction from customers were also reported by some pharmacists as barriers. A need for further training was identified in relation to a number of public-health services. Consumers: Most pharmacy users had never been offered public-health services by their pharmacist and did not expect them to be offered. Consumers viewed pharmacists as appropriate providers of public-health advice but had mixed views on the pharmacists' ability to do this. Satisfaction was found to be high in those that had experienced pharmaceutical public health.
Role of pharmacy in promoting community health	A systematic review of the research literature covering the period January 1990-August 2011 inclusive, using five databases. A total of 377 papers were included.	Brown et al. 2012	The topics of contraception, cardiovascular disease prevention, diabetes and smoking cessation accounted for 40% of included papers. The literature supports the introduction of specific community pharmacy services, targeted at customer groups, both with and without pre-existing diseases. Good evidence exists for smoking cessation, cardiovascular disease prevention, hypertension and diabetes. Some good evidence exists for interventions on asthma and heart failure. The evidence supporting weight management, sexual health, osteoporosis detection, substance abuse and chronic obstructive

Intervention	Overview	Reference	Conclusions
			pulmonary disease is weak and needs development. There is strong evidence for the role of community pharmacy in a range of services, not only aimed at improving general health, but also maintaining the health of those with existing disease

Table 3: Social media and e-health

Intervention	Overview	Reference	Conclusions
Social media and health interventions	Facebook was examined as a mechanism to recruit young adults for a smoking-cessation intervention. An ad campaign targeting young adult smokers tested specific messaging based on market theory and successful strategies used to recruit smokers in previous clinical trials (i.e. informative, call to action, scarcity, social norms), previously successful ads, and general messaging. Images were selected to target smokers (e.g. lit cigarette), appeal to the target age, vary demographically, and vary graphically (cartoon, photo, logo). Facebook's Ads Manager was used over seven weeks, targeted by age (18–25), location (United States)ra and language (English), and employed multiple ad types (newsfeed, standard, promoted posts, sponsored stories) and keywords.	Ramo et al. 2014	Facebook is a useful, cost-effective recruitment source for young adult smokers. Ads posted via newsfeed posts were particularly successful, probably because they were viewable via mobile phone. Efforts to engage more ethnic minorities, young women, and smokers motivated to quit are needed
Social media and behaviour change	Participants were enrolled into study-run, three-month secret Facebook groups matched on readiness to quit smoking. Cigarette smokers (n=79) aged 18–25 who used Facebook on most days were recruited via Facebook. All participants received the intervention and were randomised to one of three monetary incentive groups tied to engagement (commenting in groups). Assessments were completed at baseline, 3-, 6- and 12-months follow-	Ramo et al. 2015	Retention was 82% (65/79) at 6 months and 72% (57/79) at 12 months. From baseline to 12-months follow-up, there was a significant increase in the proportion prepared to quit (13% to 46%). Over a third reduced their cigarette consumption by 50% or greater, and two-thirds made at least one 24-hour quit attempt during the study. In an intent-to-treat analysis, 13% self-reported seven-day abstinence

Intervention	Overview	Reference	Conclusions
	up. Analyses examined retention, smoking outcomes over 12 months (seven-day point prevalence abstinence, ≥50% reduction in cigarettes smoked, quit attempts and strategies used, readiness to quit), engagement, and satisfaction with the intervention.		(8% verified biochemically) at 12-months follow-up. In their quit attempts, 11% used a nicotine replacement therapy approved by the Food and Drug Administration, while 18% used an electronic nicotine delivery system to quit (e.g. electronic cigarette)
Mobile phones and behavioural change	Systematic review	Whittaker et al. 2012	Five studies with at least six-month cessation outcomes were included in this review. Three studies involve a purely text-messaging intervention that has been adapted over the course of these three studies for different populations and contexts. One study is a multi-arm study of a text-messaging intervention and an internet QuitCoach separately and in combination. The final study involves a video-messaging intervention delivered via the mobile phone. When all five studies were pooled, mobile-phone interventions were shown to increase the long-term quit rates compared with control programmes, using a definition of abstinence of no smoking at six months since quit day but allowing up to three lapses or up to five cigarettes.
Computer and electronic aids for smoking cessation	Six electronic databases were searched up to December 2009. Search strategies were reported. Searches were not limited by language. Reference lists of included studies and relevant systematic reviews, and registries of ongoing trials, were searched. Experts in the field were also contacted.	Chen et al. 2012	60 RCTs and quasi-RCTs were included. Numbers of participants and quality-assessment results were reported in full, but no overall summary was reported. Compared with no intervention or generic self-help material, interventions using electronic aids significantly increased the likelihood of achieving prolonged abstinence or point prevalence abstinence from smoking, measured at the longest follow-up. The mixed-treatment comparison showed a small but statistically significant positive intervention effect on time to relapse.

Intervention	Overview	Reference	Conclusions
			Extensive further results were reported, including recommending research on the impact on effectiveness of involving users in the design of interventions, and on how electronic aids could be applied in routine practice and in the community.
Suicide and social media	Discussion paper. Provides an overview of ways that social media can influence suicidal behaviour, both negatively and positively, and evaluates the evidence of the risk. It also discusses the legal complexities of this important topic and proposes future directions for research and prevention programmes based on a public-health perspective.	Luxton et al. 2012	The role of social media and its potential influence on suicide-related behaviour is a relatively new and evolving phenomenon that society is only beginning to assess and understand. The emerging data regarding the influence of the Internet and social media on suicide behaviour have suggested that these forms of technology may introduce new threats to the public as well as new opportunities for assistance and prevention. Because social media are mostly created and controlled by end users, the opportunity for surveillance and prevention can be extended to all users. To help facilitate this user-driven approach to surveillance and prevention, all social-media sites could adopt simple-to-use methods for users to report malicious websites and activities of other users. Moreover, the public promotion of direct and easy avenues for people to access help through social media sites should be a priority. Public-health campaigns that leverage the internet and social media to raise awareness of the issue in schools, colleges and other settings might also be beneficial.
Creation of new social networks for older people	Examines the link between health and cultivating social ties using new longitudinal data from the National Social Life, Health, and Aging Project (NSHAP), which recorded changes in older adults' confidant network rosters over a period of about five years. Most respondents (81.8%) added at least one new network member during the study	Cornwell and Laumann 2015	Longitudinal analyses suggest that the addition of new confidants is associated with improvements in functional, self-rated and psychological health, net of baseline connectedness as well as any network losses that occurred during the same period. Network losses were associated with physical but not psychological wellbeing. These findings

Intervention	Overview	Reference	Conclusions
	period, and most (59.4%) cultivated multiple new confidant relationships.		underscore the importance of distinguishing between concurrent processes that underlie social network change in later life, and highlight the need for additional research on the mechanisms by which network change may improve health.

Table 4: Mental health and social isolation

Intervention	Overview	Reference	Conclusions
Social relationships and mortality risk	Meta-analytic review across 148 studies (308,849 participants) to determine the extent to which social relationships influence risk for mortality, which aspects of social relationships are most highly predictive, and which factors may moderate the risk.	Holt-Lunstad et al. 2010	The random effects weighted average effect size indicated a 50% increased likelihood of survival for participants with stronger social relationships. This finding remained consistent across age, sex, initial health status, cause of death, and follow-up period. Significant differences were found across the type of social measurement evaluated: the association was strongest for complex measures of social integration and lowest for binary indicators of residential status (living alone versus with others). Conclusions: The influence of social relationships on risk for mortality is comparable with well-established risk factors for mortality.
Focus on effectiveness of community-based heart-health interventions on depression outcomes among homebound elderly (64 years and older) with heart disease	Systematic review. 15 studies met inclusion criteria and all measured depression outcomes. Studies differed in scope and methodological rigour and sample sizes varied widely. Problems in treatment fidelity and masking of group assignment were noted. Great variability was found in depression outcomes due to the differences in methodology and intervention.	Kang-Yi and Gellis 2010	Mixed evidence for community-based heart disease interventions on depression outcomes was found. Future research should include sub-analysis of effect sizes of interventions on depression outcomes by different demographic characteristics of the study sample, common depression outcome measures, and different follow-up periods.

Intervention	Overview	Reference	Conclusions
Mental health and the elderly	Systematic review to report on the effectiveness of crisis resolution/home treatment teams for older people with mental-health problems.	Toot et al. 2011	Outcomes such as length of hospital stay and maintenance of community residence were reviewed, but evidence was inadequate for drawing conclusions. The scoping exercise defined three types of home treatment service model: generic home treatment teams; specialist older adults home treatment teams; and intermediate care services. These home treatment teams seemed to be effectively managing crises and reducing admissions. This review has shown a lack of evidence for the efficacy of crisis resolution/home treatment teams in supporting older people with mental-health problems to remain at home.
Community mental health and the elderly	Systematic literature review undertaken to collate existing evidence regarding the structures and processes of CMHTs for older people and to evaluate evidence linking approaches to effectiveness. Relevant publications were identified via systematic searches, both electronic and manual. Searches were limited to the United Kingdom for descriptions of organisation and practice but included international literature where comparisons between different CMHT arrangements were evaluated. 45 studies met inclusion criteria, with 44 being UK-based.	Abendstern et al. 2012	The most robust evidence related to research conducted in exemplar teams. Limited evidence was found regarding the effectiveness of many of the core attributes recommended in policy directives, although their presence was reported in much of the literature. The contrast between presentation and evaluation of attributes is stark. While some gaps can be filled from related fields, further research is required that moves beyond description to evaluation of the impact of team design on service-user outcomes in order to inform future policy directives and practice guidance.

Table 5: Environment

Intervention	Overview	Reference	Conclusions
Environmental factors mitigating against fruit and vegetable consumption	Data from seven existing studies, identified through literature searches and knowledge of co-authors, which collected measures of both neighbourhood-level SES and fruit and vegetable consumption, were used. Logistic regression was used to examine associations between neighbourhood-level SES and binary fruit and vegetable consumption separately, adjusting for neighbourhood clustering and age, gender and education. As much as possible, variables were treated in a consistent manner in the analysis for each study to allow the identification of patterns of association within the study and to examine differences in the associations across studies.	Ball et al. 2015	Neighbourhood socioeconomic disadvantage may differentially impact on access to resources in which produce is available in different countries. Neighbourhood environments have the potential to influence behaviour and further research is required to examine the context in which these associations arise.
Environment and obesity	First of a series of papers (SPOTLIGHT) looking at environment and obesity.	Lakerveld et al. 2016	It has been posited that unhealthy obesogenic lifestyle behaviours are a normal response to environmental characteristics that may influence an individual's level of physical activity (e.g. through the availability of opportunities to walk, interconnectivity of streets, proximity of parks) and dietary behaviours (e.g. through availability, accessibility and affordability of foods). Certain environments may be more 'obesogenic' than others – more likely to promote and facilitate unhealthy obesity-promoting behaviours, leading to weight gain in individuals and across populations. Accordingly, environmental factors offer a multitude of opportunities for the reduction of obesity prevalence.
Self-definition of neighbourhood and obesity	An innovative tool was developed in the framework of the SPOTLIGHT project to identify the boundaries of neighbourhoods as defined by participants in five European urban regions. The aims of this study were (i) to describe self-defined neighbourhood (size and overlap	Charreire et al. 2016	Self-defined neighbourhood size varies according to both individual factors (age, educational level, length of residence and attachment to neighbourhood) and contextual factors. These findings have consequences for how residential neighbourhoods

Intervention	Overview	Reference	Conclusions
	with predefined residential area) according to the characteristics of the sampling administrative neighbourhoods (residential density and socioeconomic status) within the five study regions and (ii) to determine which individual or/and environmental factors are associated with variations in size of self-defined neighbourhoods.		are defined and operationalised and can inform how self-defined neighbourhoods may be used in research on associations between contextual characteristics and health outcomes such as obesity.
Virtual audit of areas to identify obesogenic features in urban areas	Using data from a virtual audit of obesity-related features carried out in five urban European regions, this study aimed to (i) describe this international virtual audit dataset and (ii) identify neighbourhood patterns that can synthesise the complexity of such data and compare patterns across regions. Data were obtained from 4,486 street segments across urban regions in Belgium, France, Hungary, The Netherlands and the United Kingdom. It used multiple factor analysis and hierarchical clustering on principal components to build a typology of neighbourhoods and to identify similar/dissimilar neighbourhoods, regardless of region.	Feuillet et al. 2016	Four neighbourhood clusters emerged, which differed in terms of food environment, recreational facilities and active mobility features, i.e. the three indicators derived from factor analysis. Clusters were unequally distributed across urban regions. Neighbourhoods mostly characterised by a high level of outdoor recreational facilities were predominantly located in Greater London, whereas neighbourhoods characterised by high urban density and large numbers of food outlets were mostly located in Paris. Neighbourhoods in the Randstad conurbation, Ghent and Budapest appeared to be very similar, characterised by relatively lower residential densities, greener areas and a very low percentage of streets offering food and recreational facility items. These results provide multidimensional constructs of obesogenic characteristics that may help target at-risk neighbourhoods more effectively than isolated features.
Mismatch between perceived and objectively measured environmental obesogenic features in neighbourhoods	Investigated the agreement between perceived and objectively measured obesogenic environmental features to assess (1) the extent of agreement between individual perceptions and observable characteristics of the environment and (2) the agreement between aggregated perceptions and observable characteristics, and whether this varied by type of characteristic, region or	Roda et al. 2016	Overall, agreement was moderate and varied by obesogenic environmental feature, region and neighbourhood. Highest agreement was found for food outlets and outdoor recreational facilities, and lowest agreement was obtained for aesthetics. In general, a better match was observed in high-residential-density neighbourhoods characterised by

Intervention	Overview	Reference	Conclusions
	neighbourhood. Cross-sectional data from the SPOTLIGHT project (n = 6,037 participants from 60 neighbourhoods in five European urban regions) were used. Residents' perceptions were self-reported, and objectively measured environmental features were obtained by a virtual audit using Google Street View.		a high density of food outlets and recreational facilities. Future studies should combine perceived and objectively measured built environment qualities to better understand the potential impact of the built environment on health, particularly in low-residential-density neighbourhoods.
Built environment and health	Systematic review. 23 articles were included.	Renalds et al. 2010	Neighbourhoods that are characterised as more walkable, either leisure-oriented or destination-driven, are associated with increased physical activity, increased social capital, lower overweight, lower reports of depression and less reported alcohol abuse.
Built environment and physical activity	Systematic review. 20 cross-sectional and 13 quasi-experimental studies published between 1996 and 2010 were included.	McCormack and Shiell 2011	Land-use mix, connectivity and population density and overall neighbourhood design were important determinants of physical activity. The built environment was more likely to be associated with transportation walking compared with other types of physical activity including recreational walking. Three studies found an attenuation in associations between built environment characteristics and physical activity after accounting for neighbourhood self-selection.
Natural environment and physical activity	Systematic review. Analysis and integration of 90 selected studies were performed using the theory of planned behaviour (TPB).	Calogiuri and Chroni 2014	The availability of a natural environment and attractive views of nature within an individual's living environment are important contributors to physical activity, yet attention should focus on personal characteristics and environmental barriers. Policy and infrastructural interventions should aim to guarantee access and maintenance of the natural environment, as well as information and programming of social activities. Social campaigns via media and health institutions should highlight how nature can be a source of motivation for

Intervention	Overview	Reference	Conclusions
			maintaining a physical-activity routine, reducing stress and achieving aesthetic and health goals
Influences on diet	Narrative study. One cohort study, three intervention studies and two cross-sectional studies were included. The UK study was from Southampton.	Inskip et al. 2014	A woman's education is a strong influence on her own and her children's health behaviours. Women's diets vary across ethnic groups and according to number of children, but psychological factors, such as self-efficacy and sense of control, which may be amenable to modification, are powerful too, particularly in women with lower educational attainment. Maternal influences on children's behaviours are strong. Differences exist in infant feeding across countries, and there are apparent urban/rural differences in children's diets and physical activity.
Deprivation and health risk behaviour in neighbourhoods	Systematic review of recent studies on health-risk behaviour among adults who live in deprived neighbourhoods compared with those who live in non-deprived neighbourhoods and to summarise what kind of operationalisations of neighbourhood deprivation were used in the studies. The inclusion criteria were met by 22 studies.	Algren et al. 2015	The available literature showed a positive association between smoking and physical inactivity and living in deprived neighbourhoods compared with non-deprived neighbourhoods. In regard to low fruit and vegetable consumption and alcohol consumption, the results were ambiguous, and no clear differences were found. Numerous different operationalisations of neighbourhood deprivation were used in the studies. Substantial evidence indicates that future health interventions in deprived neighbourhoods should focus on smoking and physical inactivity. It is suggested that alcohol interventions should be population based rather than based on the specific needs of deprived neighbourhoods. More research is needed on fruit and vegetable consumption.
Advocacy in neighbourhoods for healthy diets for older people	Describes the Neighborhood Eating and Activity Advocacy Team project, a community-based participatory project in low-income communal housing settings in San Mateo	Buman et al. 2012	Advocacy groups are feasible among older adults to improve food and physical-activity environments.

Intervention	Overview	Reference	Conclusions
	County, CA, as one method for engaging older adults in food and physical-activity environment and policy change.		
Built environment and obesity – interventions overview	Systematic review of the published scientific literature, screening for studies with relevance to disadvantaged individuals or areas, identified by low socioeconomic status, black race or Hispanic ethnicity. A search for related terms in publication databases and topically related resources yielded 45 studies published between January 1995 and January 2009 with at least 100 participants or area residents that provided information on 1) the built environment correlates of obesity or related health behaviours within one or more disadvantaged groups or 2) the relative exposure these groups had to potentially obesogenic built-environment characteristics.	Lovasi et al. 2009	Upon consideration of the obesity and behavioural correlates of built-environment characteristics, research provided the strongest support for food stores (supermarkets instead of smaller grocery/convenience stores), places to exercise, and safety as potentially influential for disadvantaged groups. There is also evidence that disadvantaged groups were living in worse environments with respect to food stores, places to exercise, aesthetic problems, and traffic or crime-related safety. One strategy to reduce obesity would involve changing the built environment to be more supportive of physical activity and a healthy diet. Based on the authors' review, increasing supermarket access, places to exercise, and neighbourhood safety may also be promising strategies to reduce obesity-related health disparities.
Environment and obesity in children	Systematic review of quantitative research examining built and biophysical environmental variables associated with obesity in children and adolescents through physical activity. 15 quantitative studies met the inclusion criteria. The majority of studies were cross-sectional and published after 2005.	Dunton et al. 2009	For children, associations between physical environmental variables and obesity differed by gender, age, socioeconomic status, population density and whether reports were made by the parent or child. Access to equipment and facilities, neighbourhood pattern (e.g. rural, exurban, suburban) and urban sprawl were associated with obesity outcomes in adolescents. For most environmental variables considered, strong empirical evidence is not yet available.
Neighbourhood walking and environment	Systematic search for articles published prior to May 2014 on the association between walkability (based on Geographic Information Systems-derived street connectivity, land-use mix, and/or residential density) and	Hajna et al. 2015	Meta-analysis of four of these six studies indicates that participants living in high- compared to low-walkable neighbourhoods accumulate 766 more steps per day. This accounts for approximately 8% of

Intervention	Overview	Reference	Conclusions
	daily steps (pedometer or accelerometer-assessed) in adults. The mean differences in daily steps between adults living in high- versus low-walkable neighbourhoods were pooled across studies.		recommended daily steps. The results of European and Asian studies support the hypothesis that higher neighbourhood walkability is associated with higher levels of biosensor-assessed walking in adults.
Neighbourhood walkability and environmental factors	Australian survey with 2,650 adults, proximity generated with GIS databases.	Owen et al. 2007	A strong independent positive association was found between weekly frequency of walking for transport and the objectively derived neighbourhood walkability index. Walkability was related to higher frequency of transport walking, irrespective of neighbourhood self-selection.

Table 6: Rural health

Intervention	Overview	Reference	Conclusions
Rural health and emergency service utilisation	Systematic review. Scientific databases, grey literature and selected references were searched. Study quality and bias was assessed. After screening, 33 studies met the eligibility criteria, of which eight were RCTs, 13 were observational studies of unplanned care use before and after new practices were implemented and 12 compared intervention patients with non-randomised control patients.	Brainard et al. 2016	Eight of the 33 studies reported modest statistically significant reductions in unplanned emergency care use while two reported statistically significant increases in unplanned care. Reductions were associated with preventative medicine, telemedicine and targeting chronic illnesses. Cost savings were also reported for some interventions. Relatively few studies report on unscheduled medical care by specifically rural populations, and interventions were associated with modest reductions in unplanned care use. Future research should evaluate interventions more robustly and more clearly report the results.
Rural health promotion in primary-care settings	Australian systematic review. Includes nine studies.	Crouch et al. 2011	Three trials compared the effects of interventions on physical activity, one on smoking and five on multiple risk factors. Studies following interventions targeting physical activity reported that women's physical activity can be increased and that these increases can be sustained at 12 months. While there were decreases in blood pressure at six months, studies with a five-year follow-up found no decreases for both systolic and diastolic blood pressure. Overall results of studies into dietary modification programs also did not sustain an effect over a longer period of time. Conclusion: The results of this review suggest that in rural areas, lifestyle interventions delivered by primary care providers in primary-care settings to patients at low risk appeared to be of marginal benefit. Resources and time in primary care might be better spent on patients at higher risk of cardiovascular disease, such as those with diabetes or existing heart disease.

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