Health Promotion International Advance Access published January 7, 2013

Health Promotion International
doi:10.1093/heapro/das072

Implementing a community-based obesity prevention programme: experiences of stakeholders in the north east of England

G. MIDDLETON*, H. HENDERSON and D. EVANS

School of Sport and Exercise Science, University of Lincoln, 1st Floor, Brayford Pool, Lincoln, UK
**Corresponding author. E-mail: gmiddleton@lincoln.ac.uk*

SUMMARY

Recent literature indicates the potential of community-based obesity prevention programmes in the endeavour to reduce the prevalence of obesity in developed nations. Considerable suggestion and advocacy come from theoretical standpoints and little is known on actual practical application of this type of multi-component health promotion programme. This article explores the experiences of 'implementation' by stakeholders of a large community-based obesity prevention programme, facilitated by a National Health Service Care Trust in the north-east of England, UK. Three stakeholder groups (senior health officials, public health workers and community members) who had administrated and experienced the programme since its conception in 2006 provide perspectives on the aspects of local delivery and receipt. Semi-structured interviews and focus groups were conducted with stakeholders (28 participants in total). The participants felt there were three broad aspects which shaped and constrained the delivery and receipt of the programme, namely partnership working, integration of services and quality issues. Data indicated that it had taken time to establish working partnerships between the multi-agencies involved in the community-based obesity programme. Strategic management would aid the processes of communication and collaboration between agencies and also the local community involved in the administration, delivery and participation of interventions in the programme. Secondly, the way in which the programme is justified and sustained will have to be reviewed, with the intention of using a suitable evaluative framework or tool for monitoring purposes.

Key words: population health; capacity building; qualitative methods; social capital

INTRODUCTION

There is pressing international concern about the prevalence of the obesity pandemic in developed countries (Gortmaker *et al.,* 2011; Wang *et al.,* 2011). Current public health measures seem to have had little success in reversing the rate of obesity prevalence (Swinburn *et al.,* 2011) and questions have been raised over their effectiveness and suitability (Chan and Woo, 2010; Walls *et al.,* 2011). Population-wide or 'whole-population' public health programmes have been advocated and generally accepted by the scientific community as the means to prevent obesity (Aranceta *et al.,* 2009; Simmons *et al.,* 2009; Cecchini *et al.,* 2010; King *et al.,* 2011). The terms 'primary prevention' or 'universal prevention' have been used to describe population-based approaches (WHO, 2004; Kumanyika *et al.,* 2008; King *et al.,* 2011). These are characterized by passive attempts to improve opportunities for improving health within population segments (a community) which have no prior screening risk, but are likely to be exposed to health inequalities (WHO, 2004).

In recent years, there has been a steady increase in the research literature on 'community-based' obesity prevention programmes (Wilson *et al.,* 2009; de Groot *et al.,* 2010; de Silva-Sanigorki *et al.,* 2010; Allender *et al.,* 2011; Davey *et al.,* 2011). Community-based obesity programmes offer great potential for population-wide approaches, given that the rationale for their implementation is based upon addressing the multiple spheres of influence within the social–ecological model or understanding of obesity (Economos and Irish-Hauser, 2007; DeMattia and Denney, 2008; Allender *et al.,* 2011). The depth of the programmes covering multiple settings (schools, workplaces, community centres etc.) and levels within society suggests that this type of approach can target a large population, addressing behaviours which promote weight gain (King *et al.,* 2011). Theoretically, this type of public health initiative works by enabling existing communities to take action and control of the determinants of unhealthy behaviours, a contrasting concept to the traditional expert-led or medical models (Kumanyika *et al.,* 2008; Allender *et al.,* 2011). From a ground-level perspective, the strength of community-based programmes is the foundations on which potential interventions can be designed and delivered (Wilson *et al.,* 2009; Allender *et al.,* 2011). Involving the community in the decision-making processes increases the likelihood of suitable and sensible interventions; being acceptable, pragmatic and sustained by the local population (Kumanyika *et al.,* 2008) and thus reducing redundancy of ineffective programmes (DeMattia and Denney, 2008). Success is often attributed to the level of engagement with local people and the consideration of the unique contextual factors which promote unhealthy behaviours (mainly barriers) within each community (Economos and Irish-Hauser, 2007; King *et al.,* 2011). Previous research has highlighted the challenges of implementation of obesity prevention programmes encountered by public health practitioners and community members in Australia (Wilson *et al.,* 2009; de Groot *et al.,* 2010; de Silva-Sanigorki *et al.,* 2010), America (Boyle *et al.,* 2009; Po'e *et al.,* 2010; Dreisinger *et al.,* 2012) and Canada (Tucker, 2006). Currently, limited knowledge exists on the 'practical experience' involved with planning and implementation of community-based obesity prevention programmes (King *et al.,* 2011) and, despite some recent activity in the UK (Davey *et al.,* 2011), little has been communicated in the relevant literature. This article explores the experiences of local stakeholders involved in the planning and implementation of a National Health Service (NHS) Care Trust obesity prevention programme; senior health officials (SHOs: local authority and Care Trust workers at strategic and commissioning level), public health workers (PHWs: local authority and Care Trust workers responsible for coordination, administration and delivery) and the community members (CMs: local people identified as key informants).

Programme background

The existing community-based obesity prevention programme was originally instigated by the 'Neighbourhood Renewal Fund' received in 2006–2008 by a local Care Trust (CT). Currently, population estimates are approximately 160 000 people (Office for National Statistics, 2011) in the CT's area of responsibility. This area includes 26 demographic segments which are within the top 10% of the most deprived populated areas across England, according to the 2007 national index of multiple deprivation (Department of Communities and Local Government, 2008). The programme operates across a network of organizations (multi-agencies) representing different public service provision. Partner organizations (local authority, business, charity etc.) and allied health professionals (community nurses, public health nutritionists, health promotion practitioners etc.) work collaboratively in the design, delivery and administration of interventions. Activities tend to be centrally organized and administered by the local CT with a total of 32 interventions involved in the programme (Table 1). The series of interventions aim to address the main determinants of obesity by employing a wide range of activities that focus on changing nutrition and physical activity behaviours in the local community. In this sense, the approach to delivery is flexible and inclusive (encompassing all ages) to try and ensure that the programme meets community need and equity. In addition, the settings for interventions within the programme are extensive, including schools, children's centres, work sites and also leisure, health and community centres.

Table 1: Programme components of the community-based obesity prevention programme

Programme component	Type of intervention[a]	Health promotion approach[b]	Setting(s)[c]
Active Clubs	Physical activity	Education/empowerment/behaviour change	Community/school
Active At School	Physical activity	Behaviour change	School
Actively Us Buddying	Physical activity/mental health	Empowerment/behaviour change	Community
Balance Your Lifestyle	Nutrition	Education/behaviour change	Community
Box-Fit	Physical activity	Education/empowerment/behaviour change	Community
Chair Based Exercise	Physical activity	Education/empowerment/behaviour change	Community
Community Health Walks	Physical activity	Education/empowerment/behaviour change/social change	Community/ workplace
Fit Bunch	Physical activity/nutrition	Education/behaviour change	School
Fit Family Food	Nutrition	Education/behaviour change	Community
Fit Lincs	Physical activity	Education/behaviour change	Community
Food for Fitness	Nutrition	Education/empowerment/behaviour change/social change	School/community
Healthy eating for communities	Nutrition	Education/empowerment/behaviour change/social change	Community
Health in the workplace	Physical activity/nutrition/ mental health	Education/empowerment/behaviour change/social change	Workplace
Health Kick	Physical activity/nutrition	Behaviour change	School
Heartwell	Physical activity/nutrition/ mental health	Education/empowerment/behaviour change/social change	Community/school/ workplace
Indoor Rowing	Physical activity	Education/behaviour change	School/community
Intergeneration	Physical activity	Education/empowerment/behaviour change	School/community
Men's weight management	Physical activity/nutrition/ mental health	Education/empowerment/behaviour change	Community
New-age Kurling	Physical activity	Education/behaviour change	Community
Parkour	Physical activity	Education/behaviour change	Community
Pedalwell	Physical activity	Behaviour change	Community
Positive playgrounds	Physical activity	Education/behaviour change	School
Route to Midlife	Mental health/physical activity/nutrition	Education/empowerment/behaviour change	Community
Secondary Active Lunchtimes	Physical activity/nutrition	Education/empowerment/behaviour change	School
Slimming on Referral	Nutrition	Education/behaviour change	Community
STEPS	Physical activity/nutrition/ mental health	Education/empowerment/behaviour change	Community
Steps for Life	Physical activity/nutrition	Education/behaviour change	School
Street Beat	Physical activity	Empowerment/behaviour change	Community/school
Thi Chi	Physical activity	Behaviour change	Community
Walkwell	Physical activity	Empowerment/behaviour change	Community
Walking bus	Physical activity	Behaviour change	School/community
100 a-day Challenge	Physical activity	Education/behaviour change	Community/ workplace

[a]The primary intervention type delivered appears first; [b]Identification of categories was guided by Naidoo and Willis (Naidoo and Willis, 2009); [c]The setting that appears first is the primary location for the intervention.

METHOD

A qualitative approach with semi-structured interviews and focus groups was utilized for data collection. This approach was selected in order to provide an in-depth understanding of the programme from the perspective of those engaged with it; the stakeholders. Use of qualitative methods in this context can inform health policy and practice development (Swift and Tischler, 2010).

Participants

The methodology described represented a service development/evaluation area for quality

improvement in public health (National Patient Safety Agency, 2010). Ethical approval was granted by an Ethics Committee at the University of Lincoln, UK. Participants were approached by an e-mail invitation after being purposively recruited in collaboration with officials from the CT. The invitation explained the nature of the service development/evaluation and 28/32 agreed to take part (87.5%). Each person completed a consent form after reading participant information sheets and having had an opportunity to ask any questions. Both the SHOs (*n* 4) and CMs (*n* 13) participated in separate semi-structured one-to-one interviews. For pragmatic reasons, PHWs (*n* 11) participated in two separate semi-structured focus groups (*n* 4 and 7) because of the limited availability of these individuals. All information was digitally recorded with support from additional field notes and was collected at mutually convenient locations.

Discussion within the focus groups and interviews was generated by a line of questioning (rather than the use of specific topic guides) as this approach has been argued to develop greater consistency when questioning but also improve future analysis (Krueger and Casey, 2000). Questions were 'concept-driven' (Fade and Swift, 2010) and explicitly explored: (1) *Programme receipt* (e.g. 'How has the programme been received by the local community?', and 'To what extent do you feel the programme has contributed to the provision of services here?'), and (2) *Programme delivery and provision* (e.g. 'What aspects of the programme did you feel were effective/ineffective?' and 'What are your feelings on the way the programme has been administered/managed?'). The focus group and interview facilitators fostered discussion and encouraged explanations. The structure was intended to be relatively open and a forum was provided for participants to discuss the issues they felt were important (Bryman, 2008). When possible, insufficient responses were avoided by using open questions, small 'prompts', 'probes' and follow-up questions (Krueger and Casey, 2000).

Data analysis

All of the interviews and focus groups were recorded and transcribed verbatim. NVivo (QSR v7) was used to manage the data analysis process. Broadly, a process of systematic organization and coding was adopted (Patton 1990). This began with by firstly organizing the data into a large number of open codes, focussed codes and then grouped into categories (Charmaz, 2006). Open codes allowed the authors to break down the data into small components and then examine and compare data (Strauss and Corbin, 1990; Cohen *et al.,* 2011). By using focussed coding, it was possible to reflect on which codes were most significant and made the most analytical sense (Charmaz, 2006) in relation to the data as a whole. In addition, it provided an opportunity to reduce the data into a structure which addressed the concept-driven questions (Braun and Clarke, 2006). Once coded and categorized, data were analysed to identify underlying relationships and linkages between categories (Cohen *et al.,* 2011). This process allowed theory to be generated through a process of abstraction (Flick, 2006).

To support data validation and reliability, collaborative processes occurred during the confirmation of the final analysis (Harris *et al.,* 2009). Initially, inter-rater checking (between authors, regarding the open coding process) and consensus validation (regarding the organization of themes) was conducted. Secondly, the authorship team directed processes of member checking (submitting the draft analysis for review) and peer debrief with participants and other senior stakeholders (local authority and CT based), not used in the original data collection (Cohen *et al.,* 2011).

FINDINGS AND DISCUSSION

Main themes are presented in **bold** with the sub-themes outlined in *italic*. Where quotes are provided, the speaker's reference is given in the form: (stakeholder; participant number; interview/focus group). For anonymity purposes, any recognizable 'named' person or item is expressed as '*XXXXXX*'.

Data analysis indicated that participants felt there were three broad aspects which shaped and constrained the delivery and receipt of the programme, namely partnership working, integration of services and quality issues (Table 2).

Partnership working

Stakeholders felt that the programme had taken substantial time and effort to establish, with a

Table 2: An overview of the 'main themes' and associated 'sub-themes' revealed by stakeholders

Main themes	Partnership working	Integration of services	Quality issues
Sub themes	Building links with partner agencies	Communication & marketing issues	Staffing and sustainability
	Sharing resources	Differing sector priorities and preferences	Problems with measureable targets
	Improving health promotion interventions	Strategic direction	Challenging aspects of communities

reliance on partnership working. The philosophical foundations of community-based obesity prevention programmes are wrapped in the concept of local capacity building (Heward *et al.,* 2007). As a framework for community-based work or development, this can produce competent and skilled communities (Baillie *et al.,* 2009; Liberato *et al.,* 2011). To establish preventative obesity strategies across the community, partnerships or 'coalitions' between individuals and organizations with a shared interest create a collaborative network (Hawe *et al.,* 1997; Butterfoss, 2006). Stakeholders acknowledged that it had taken time *building links with partner agencies* to organize and coordinate suitable and effective coalitions. This was between different agencies and the community groups involved in the delivery of interventions within the obesity prevention programme:

> I think we are starting now to understand where the effects are happening, particularly working with schools. Schools are more on-board now with that so it's easier to engage with partners so we're . . . I think it's been easier to do, target areas now because we've got the buy-in from partners (SHO; 14; Interview)

Theoretically, strong multi-agency networks have the adage of sharing resources in terms of finance, human or technical expertise (Butterfoss *et al.*, 1993; Butterfoss, 2006), which generates social capital (Gillies 1998; Muntaner *et al.*, 2000; Morgan and Swann, 2004). This social capital creates bonds between partners which facilitate the development of norms, values and trust between partners (Dhillon, 2009) which in turn can improve collaborative working and build capacity. In terms of obesity prevention, the importance of development of social capital between partner agencies is the subsequent availability of secure networks and resources enabling social connections for community groups to access (Holtgrave and Crosby, 2006; Moore *et al.*, 2009). Stakeholders felt that the programme demanded a wide-range of resources and reported that advertising/marketing, hire of buildings/halls and purchasing specialist equipment were the main expenses. Partnerships between the local authority and the CT enabled *sharing resources* and kept 'costs down' for the benefit of both parties. In addition, a partnership approach to training course provision (which aimed to equip local people with skills for leading community interventions) were cited consistently as an example of sharing resources:

> we've been able to share resources with the children's centres as well, and we've shared, you know, the games that will be used in the training as well as the literature and skills training, over, it's quite considerable the number of people actually that have got trained up on that over the three, four years (SHO; 12; Interview)

PHWs felt that multi-agency, partnership working was a valuable approach to addressing obesity; *improving health promotion interventions*. Collaboration was considered an important factor in the progress of interventions. It was suggested that further collaboration between agencies could increase the depth and local impact of the projects:

> it allowed us to look at a different set of approaches and certainly what I think it's allowed us to do is that . . . that linking of lots of different pieces of work . . . we can now put the basic aspirations, the healthy eating, physical activity, a whole raft of emotional wellbeing stuff all in the same pot so you can actually do that bigger piece of work rather than it just focusing on the specifics (PHW; 02; Focus Group)

Integration of services

Recently, other researchers have recommended that community-based obesity prevention programmes (Po'e *et al.,* 2010; Dreisinger *et al.,* 2012) would benefit from further collaboration to facilitate and increase communication between organizations and improve the efficiency of delivery practices and ultimately, the integration of services (resources, staffing, community engagement, etc.). Stakeholders highlighted *communication & marketing issues* in the considerable effort it took to make contact with partners, create support systems and implement partnership work for the benefit of the community. While this work was considered worthwhile it was felt that this area could be improved further still. In particular, the SHOs felt that communication between agencies needed further work to ensure cost-effective working practices and avoid replication of effort:

> Communication is always a problem – I think . . . It's very difficult – the left hand doesn't know what the right hand is doing and that's not a reflection of this particular programme – that's a reflection I think, full stop across *XXXXXX* services (SHO; 15; Interview)

Both SHOs and PHWs indicated a desire for information to be 'pooled' and for all services to be 'marketed' across the working sector(s). The CMs felt that more could be achieved on the level of publicity used to increase community engagement, and how the activities within the programme could be communicated to the community:

> I don't think as many are using it as could use it. And I, even now, when I've spoken to people and told them I've been on the course, they said they didn't know about it. So whether that's their lack of communication not reading the local papers (CM; 22; Interview)

It has been advocated that communication and marketing should take a primary focus across all sectors to foster health-promoting environments for public health (Maibach *et al.,* 2007). In this particular area, a mapping exercise of workers, their roles and how they can work together across all services may promote further integration and more effective interventions. While the benefits of a multi-agency approach were recognized by the CT and local authorities, it was felt that working with individuals from a number of different sectors was at times difficult and complicated. Current and intended partners have *differing sector priorities and preferences* towards priorities and agendas, impacting upon their level of engagement. It was reported by PHWs that when working with physical education teachers and schools that they:

> haven't got enough time because they're doing all the other, focusing on ones that are doing the football leagues, the netballing and things like that so putting a health project in is not really a priority for some of these teachers so delivery's harder in schools (PHW; 08; Focus Group)

Furthermore, an attempt to establish workable relationships with GP practices was frustrating and time consuming:

> there's a lot of work to do with Primary Care though . . . especially GPs – now we seem to have a working relationship, better with practice nurses but certainly engaging GPs and getting them to sort of come along with us – it's still a long way to go (PHW; 04; Focus Group)

The recent and pending national reforms in the English health system (scheduled for abolition in early 2013) may improve this situation when Public Health Directorates move over to local authorities (DoH, 2010). In theory, public health workers and local authority staff will be working 'side-by-side'. One of the most prominent points raised by the PHWs and SHOs was that there was need for a clear strategic management of the obesity prevention programme which incorporates all public services and contributory organisations:

> what's always been missing is that person . . . at strategic management level who holds all these things together – and it's always been really obvious that that's been missing . . . is that strategic push forward, sort of thing (SHO; 15; Interview)

There appears to be a requirement at a local level for leadership, direction and coherent decision making with the obesity prevention programme. Other researchers recommended that leadership skills are integral to the capacity building process, along with establishing clear roles and responsibilities of partner organizations (de Groot *et al.,* 2010). In addition, the

management of the number of interventions in the programme was considered an issue:

> I've always said – when do you stop being effective? How much work do you take on before the quality is lost in some of the projects? – Is it beneficial to have ten or fifteen projects or is it more beneficial to have two or three that work very effectively? I guess that's the conundrum, isn't it? (PHW; 04; Focus Group)

Quality issues

Stakeholders highlighted a number of quality issues that affected the programme's progress and performance. The PHWs reported various interventions with little security on their existence, having life-span that was relatively unknown and unpredictable. Indeed, they were mindful of economic restrictions and the short-term appointments of project workers involved in the intervention administration and delivery; *staffing and sustainability* issues. PHWs reported that there was a possible shortfall in the workforce size, particularly if numerous interventions progressed and continued with greater coverage and responsibility. The major concern was dilution of the consistency and quality of delivery given the current service size and capacity level:

> A lot of the things we're trying to do was sustainable, as in that we'll train somebody to deliver the Cookery Course after we've gone into schools and done it. But getting those people to make sure they're ok, and if they need support then we're there to do it, that's on going, it still needs support and sometimes when you go back in, some of the things we deliver in schools, there isn't really anybody else to deliver them
> (PHW; 05; Focus Group)

Stakeholders felt that the *challenging aspects of communities* were not fully recognized by funding bodies or senior colleagues. The time taken to establish cross-community practices were often underestimated:

> People need support, especially if you're talking about handing stuff over to the community or involving the community, even that process of initially engaging with the community can take a long time – there's a lot of steps to go through before you can even get to the point of actually your original sort of project that you thought up (PHW; 03; Focus Group)

In addition, it seemed that the extent of the deprivation and social problems (Wilkinson and Pickett, 2007) in the fabric of the communities created an additional layer of difficulty which impacted on the implementation of this programme. Communities are often labelled 'complex' (Swinburn *et al.*, 2007) given the dynamic social, cultural and environmental components that exist at a local level (Economos and Irish-Hauser, 2007). The CMs acknowledged that some of the programme's activities had little significance for people in the community given other socio-economic issues:

> this is a very deprived area of *XXXXXX*, the town itself and the *XXXXXX* is not particularly good – you've got a lot of unemployed people in the area, you've got a lot of people with financial problems, a lot of single parent families, you've got a lot of elderly (CM; 17; Interview)

The PHWs indicated that there is a real difficulty in registering impact across the spectrum of interventions and having *problems with measureable targets.* Stakeholders reported intervention benefits which were unseen or unappreciated, despite holding some potential value to the administration of the programme. Although PHWs were well aware that their interventions should deliver health outcomes, this was met with frustration. It was felt that there was no room to capture 'more than just numbers' as a way of justifying administration and funding of interventions. It was also considered difficult to 'prove' the impact of interventions despite observing several emotional, mental and social health benefits:

> we're trying to record the emotional side of things as well but it's a little bit more difficult but you're seeing massive impact on families and from a community point of view, you can't measure that fully – it's a massive impact this is having (PHW; 01; Focus Group)

The PHWs felt that these 'softer' elements were valued less by funding bodies than measurable outcomes (attendance, weight loss etc.) despite the benefits they still seemed to illicit:

> There's no measure as well the other effects, you know, the social effects, the social support, and networkings, there's so many different things that this *XXXXXX* is leading to
> (PHW; 07; Focus Group)

The initial and intermediate changes including empowerment, competency, confidence and attitudes that tend to arise from the beginnings of a health promotion programme, are notoriously difficult to record and quantify (Nutbeam, 1998; Nutbeam and Bauman, 2006). The recording of these key components is likely to be exacerbated somewhat, given the complex and often unpredictable nature of a community environment. Importantly, these 'softer' elements of health promotion work often occur before the changes in physical health status (Nutbeam and Bauman, 2006). Capturing this early evidence positions the foundations of each intervention within the programme. Both qualitative and quantitative approaches have been advocated as the obesity prevention field evolves toward 'evidence-based practice' (Livingstone *et al.*, 2006). This study attempted to reconcile these complexities in order to contribute to evidence-based practice. However, it is recognized that there are limitations in trying to explore 32 individual interventions as part of the large community-based obesity prevention programme, in particular the difficulties in capturing the experiences of all stakeholders at all levels of the programme. In addition, it is important to acknowledge that the diverse geographical nature of north east Lincolnshire may impact on the application of the data to other obesity prevention programmes in other areas. Despite these limitations, this study has provided a valuable insight into stakeholders' experiences of implementation which could inform practice in other obesity prevention programmes.

This research indicates that evaluation of similar programmes would benefit from a clear and transparent evaluative framework which harnesses all types of evidence collection. If this can be designed and disseminated through multi-agency collaboration, it may allow for a productive tracking and monitoring process. Furthermore, training for public health workers and local authority staff on sourcing and securing appropriate evidence may lead to more attentive data collection. Interestingly, several similar programmes have utilized the expertise of a group of evaluators; a collection of project workers, managers and academics in the field (Wilson *et al.,* 2009; Davey *et al.,* 2011). In this sense, having a combination of theoretical and practical knowledge seems to be a logical step towards improving the necessary evaluation components. A recent article outlines the early 'principles' that are just forming in this field and that the future agenda should concentrate on 'how to' administer community-based obesity prevention programmes with greater consistency regarding the management processes of planning, implementation and evaluation (King *et al.*, 2011).

CONCLUSION AND RECOMMENDATIONS

A wealth of rich data were presented from the experiences of the stakeholders implementing the obesity prevention programme in this article. Qualitative data indicated the benefits and problems with local *partnership working*, *integration of services* and *quality issues*. Population-based obesity prevention programmes should consider the 'contextual factors' which are unique and embedded within the local area and community (Swinburn *et al.,* 2005; Economos and Irish-Hauser, 2007). A contemporary challenge is generating an understanding on 'how to' plan, implement, evaluate and govern obesity prevention programmes (King *et al.,* 2011). Indeed, it may take a more 'realist' view to unwrap the mechanisms in which complex social interventions work in local contexts and settings (Pawson *et al.,* 2005). The experiences by stakeholders in obesity prevention programmes can illustrate the underlying reasons why complex social interventions, by their very nature are inherently difficult to design, deliver and manage. This distinctive investigation contributes to the recent literature by being the first to consider the UK setting; providing practical relevance and informing current practice for other similar NHS administered programmes.

There is limited knowledge on the practical experience involved with planning and implementation of community-based obesity prevention programmes (King *et al.,* 2011). Recent studies have covered Australia (Wilson *et al.,* 2009; de Groot *et al.,* 2010; de Silva-Sanigorki *et al.,* 2010) and America (Boyle *et al.,* 2009; Po'e *et al.,* 2010; Dreisinger *et al.,* 2012); however, little has been published documenting efforts in the UK. The findings from this investigation illustrate the challenging experiences of stakeholders when implementing a large community-based obesity prevention

programme in the north-east of England. Together with the growing research regarding implementation efforts in this field, several recommendations can be made that are applicable to similar NHS administrated programmes in the UK, which may facilitate successful implementation:

- From an early point of implementation, strong strategic level vision and leadership are required to guide the broad scope of the programme.
- Time and resources must be given to establish significant intervention projects and for key personnel to remain in service to coordinate.
- All partner agencies should have mutual understanding of the shared responsibilities within the programme.
- Local services require mapping and marketing for improving communication between partner agencies and the community.
- All stakeholders should have a focus on evaluation, and be involved at some level in the design and collection of information.
- Evaluation should consider the theoretical aspects and the pragmatic nature of delivery.

ACKNOWLEDGEMENTS

We are grateful to the local North East Lincolnshire Care Trust Plus for funding this investigation and allowing access to their facilities. We thank all participants involved in the programme for giving their time to contribute.

FUNDING

The work was supported by North East Lincolnshire Care Trust Plus, UK.

REFERENCES

Allender, S., Nichols, M., Foulkes, C., Reynolds, R., Waters, E., King, L. *et al.* (2011) The development of a network for community-based obesity prevention: the CO-OPS collaboration. *BMC Public Health*, **1**, 132.

Aranceta, J., Moreno, B., Moya, M. and Anadon, A. (2009) Prevention of overweight and obesity from a public health perspective. *Nutrition Reviews*, **67**, S83–S88.

Baillie, E., Bjarnholt, C., Gruber, M. and Hughes, R. (2009) A capacity-building conceptual framework for public health nutrition practice. *Public Health Nutrition*, **12**, 1031–1038.

Boyle, M., Lawrence, S., Schwarte, L., Samuels, S. and McCarthy, W. J. (2009) Health care providers' perceived role in changing environments to promote healthy eating and physical activity: baseline findings from the health care providers participating in the healthy eating, active communities program. *Pediatrics*, **123**, S293–S300.

Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, **3**, 77–101.

Bryman, A. (2008) *Social Research Methods*, 3rd edn. Oxford University Press, Maidenhead.

Butterfoss, F. (2006) Building allies coalitions: why formation matters. *Health Promotion Practice*, **7**, S23–S33.

Butterfoss, F., Goodman, R. and Wandersman, A. (1993) Community coalitions for prevention and health promotion. *Health Education Research*, **8**, 315–330.

Cecchini, M., Sassi, F., Lauer, J. A., Lee, Y. Y., Guajardo-Barron, V. and Chisholm, D. (2010) Tackling of unhealthy diets, physical inactivity, and obesity: health effects and cost-effectiveness. *Lancet*, **376**, 1775–1784.

Chan, R. and Woo, J. (2010) Prevention of overweight and obesity: how effective is the current public health approach. *International Journal of Environmental Research and Public Health*, **7**, 765–783.

Charmaz, K. (2006) *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis*. Sage, London.

Cohen, L., Manion, L. and Morrison, K. (2011) *Research Methods in Education*, 7th edn. Routledge, London.

Davey, R., Hurst, G., Smith, G., Grogan, S. and Kurth, J. (2011) The impact and process of a community-led intervention on reducing environmental inequalities related to physical activity and healthy eating—a pilot study. *BMC Public Health*, **11**, 697–705.

Department of Communities and Local Government. (2008) *English Indices of Deprivation 2007*. HMSO, London.

Department of Health. (2010) *The White Paper. Equity and excellence: liberating the NHS*. Department of Health, London.

Dhillon, J. (2009) The role of social capital in sustaining partnership. *British Educational Research Journal*, **35**, 687–704.

DeMattia, L. and Denney, S. (2008) Childhood obesity prevention: successful community-based efforts. *The ANNALS of the American Academy of Political and Social Science*, **615**, 83–99.

de Groot, F., Robertson, N., Swinburn, B. and Silva-Sanigorski, A. (2010) Increasing community capacity to prevent childhood obesity: challenges, lessons learned and results from the Romp & Chomp intervention. *BMC Public Health*, **10**, 522–530.

de Silva-Sanigorski, A. M., Bolton, K., Haby, M., Kremer, P., Gibbs, L., Waters, E. and Swinburn, B. (2010) Scaling up community-based obesity prevention in Australia: background and evaluation design of the Health Promoting Communities: Being Active Eating Well initiative. *BMC Public Health*, **10**, 65–72.

Dreisinger, M., Boland, E., Filler, C., Baker, E., Hessel, A. and Brownson, R. (2012) Contextual factors influencing readiness for dissemination of obesity prevention

programs and policies. *Health Education Research*, **27**, 292–306.
Economos, C. and Irish-Hauser, S. (2007) Community interventions: a brief overview and their application to the obesity epidemic. *The Journal of Law, Medicine and Ethics*, **35**, 131–137.
Fade, S. and Swift, J. (2010) Qualitative research in nutrition and dietetics: data analysis issues. *Journal of Human Nutrition and Dietetics*, **24**, 106–114.
Flick, U. (2006) *An Introduction to Qualitative Research*. 4th edn. Sage, London.
Gillies, P. (1998) Effectiveness of alliances and partnerships for health promotion. *Health Promotion International*, **13**, 99–119.
Gortmaker, S. L., Swinburn, B., Levy, D., Carter, R., Mabry, P., Finegood, D. *et al.* (2011) Changing the future of obesity: science, policy, and action. *Lancet*, **378**, 838–847.
Harris, J. E., Gleason, P. M., Sheean, P. M., Boushey, C., Beto, J. and Bruemmer, B. (2009) An introduction to qualitative research for food and nutrition professionals. *Journal of the American Dietetic Association*, **109**, 80–90.
Hawe, P., Noort, M., King, L. and Jordens, C. (1997) Multiplying health gains: the critical role of capacity-building in health promotion programs. *Health Policy*, **39**, 29–42.
Heward, S., Hutchins, C. and Keleher, H. (2007) Organizational change—key to capacity building and effective health promotion. *Health Promotion International*, **22**, 170–178.
Holtgrave, D. R. and Crosby, R. (2006) Is social capital a protective factor against obesity and diabetes? Findings from an exploratory study. *Annals of Epidemiology*, **16**, 406–408.
King, L., Gill, T., Allender, S. and Swinburn, B. (2011) Best practice principles for community-based prevention: development, content and application. *Obesity Reviews*, **12**, 329–338.
Krueger, R. and Casey, M. (2000) *Focus Groups: A Practical Guide for Applied Research*, 3rd edn. Sage, London.
Kumanyika, S., Obarzanek, E., Stettler, N., Bell, R., Field, A., Fortmann, S. *et al.* (2008) Population-based prevention of obesity: the need for comprehensive promotion of healthful eating, physical activity, and energy balance: a scientific statement from American Heart Association Council on Epidemiology and Prevention, Interdisciplinary Committee for Prevention. *Circulation*, **118**, 428–464.
Liberato, S., Brimblecombe, J., Ritchie, J., Ferguson, M. and Coveney, J. (2011) Measuring capacity building in communities: a review of the literature. *BMC Public Health*, **11**, 850–860.
Livingstone, M., McCaffrey, T. and Rennie, K. (2006) Childhood obesity prevention studies: lessons learned and to be learned. *Public Health Nutrition*, **9**, 1121–1129.
Maibach, E., Abroms, L. and Marosits, M. (2007) Communication and marketing as tools to cultivate the public's health a proposed 'people and places' framework. *BMC Public Health*, **7**, 88–102.
Moore, S., Daniel, M., Paquet, C., Dubé, L. and Gauvin, L. (2009) Association of individual network social capital with abdominal adiposity, overweight and obesity. *Journal of Public Health*, **31**, 175–183.
Morgan, A. and Swann, C. (2004) *Social Capital for Health Issues of Definition, Measurement and Links to Health*. Health Development Agency, London.
Muntaner, C., Lynch, J. and Smith, G. (2000) Social capital and the third way in public health. *Critical Public Health*, **10**, 107–124.
Naidoo, J. and Willis, J. (2009) *Foundations for Health Promotion*, 3rd edn. Bailliere Tindall, London.
National Patient Safety Agency. (2010) *Defining research: NRES guidance to help you decide if your project requires review by a Research Ethics Committee* [online]. The National Health Service. http://www.nres.npsa.nhs.uk (last accessed December 2011).
Nutbeam, D. (1998) Evaluating health promotion – progress, problems and solutions. *Health Promotion International*, **13**, 27–44.
Nutbeam, D. and Bauman, A. (2006) *Evaluation in a Nutshell: A Practical Guide to the Evaluation of Health Promotion Programs*. McGraw-Hill, London.
Office for National Statistics. (2011) *Mid-2010 Population Estimates* [online]. UK Statistics Authority. http://www.statistics.gov.uk (last accessed November 2011).
Patton, M. (1990) *Qualitative evaluation and research methods*. 2nd edn. Sage, London.
Pawson, R., Greenhalgh, T., Harvey, G. and Walshe, K. (2005) Realist review—a new method of systematic review designed for complex policy interventions. *Journal of Health Service Research and Policy*, **10**(S1), 21–34.
Po'e, E., Gesell, S., Lynne Caples, T., Escarfuller, J. and Barkin, S. (2010) Pediatic obesity community programs: barriers and facilitators toward sustainability. *Journal of Community Health*, **35**, 348–354.
Simmons, A., Mavoa, H. and Bell, A. (2009) Creating community action plans for obesity prevention using the ANGELO (Analysis Grid for Elements Linked to Obesity) Framework. *Health Promotion International*, **24**, 311–324.
Strauss, A. and Corbin, J. (1990) *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, 2nd edn. Sage, London.
Swift, J. and Tischler, V. (2010) Qualitative research in nutrition and dietetics: getting started. *Journal of Human Nutrition and Dietetics*, **23**, 559–566.
Swinburn, B., Gill, T. and Kumanyika, S. (2005) Obesity prevention: a proposed framework for translating evidence into action. *Obesity Reviews*, **6**, 23–33.
Swinburn, B., Bell, C., King, L., Magarey, A., O'Brien, K. and Waters, E. (2007) Obesity prevention programs demand high-quality evaluations. *Australian and New Zealand Journal of Public Health*, **31**, 305–307.
Swinburn, B., Sacks, G., Hall, K., McPherson, K., Finegood, D., Moodie, M. and Gortmaker, S. (2011) The global obesity pandemic: shaped by global drivers and local environments. *Lancet*, **378**, 804–814.
Tucker, P., Irwin, J., Sangster Bouck, L., He, M. and Pollett, G. (2006) Preventing paediatric obesity; recommendations from a community-based qualitative investigation. *Obesity Reviews*, **7**, 251–260.
Walls, H., Peeters, A., Proietto, J. and McNeil, J. (2011) Public health campaigns and obesity – a critique. *BMC Public Health*, **11**, 136–143.

Wang, C., McPherson, K., Marsh, T., Gortmaker, S. and Brown, M. (2011) Health and economic burden of the projected obesity trends in the USA and the UK. *Lancet*, **378**, 815–825.

Wilkinson, R. G. and Pickett, K. E. (2007) The problems of relative deprivation: why some societies do better than others. *Social Science & Medicine*, **65**, 1965–1978.

Wilson, A., Magarey, A., Dollman, J., Jones, M. and Mastersson, N. (2009) The challenges of quantitative evaluation of a multi-setting, multi-strategy community-based childhood obesity prevention programme: lessons learnt from the eat well be active Community Programs in South Australia. *Public Health Nutrition*, **13**, 1262–1270.

World Health Organisation. (2004) *Obesity: Preventing and Managing the Global Epidemic: Report of a WHO Consultation*. Technical Report Series no.894. WHO, Geneva.