NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Centre for Public Health

What are the most effective models of delivery of programmes that aim to increase the uptake and maintenance of healthy lifestyle behaviours in mid-life?

A pragmatic brief review

May 2014

Abbreviations

BME	black and minority ethnic
CPH	Centre for Public Health (at NICE)
HAD	Health Development Agency
NA	not applicable
NICE	National Institute for Health and Care Excellence
PA	physical activity
PHAC	Public Health Advisory Committee
SES	socio-economic status

Acknowledgements and declarations

This report was undertaken by the NICE Centre for Public Health team (Lead author: Claire McLeod; quality assurance of the report: Hilary Chatterton and Catherine Swann). There are no competing interests to declare.

Contents

1 Executive Summary

Objectives & Methods

- A pragmatic and focussed review to build up an iterative understanding of the service delivery features that promote uptake and maintenance of healthy lifestyle programmes in 'mid-life' populations. Potential service configurations that might be appropriate to engage disadvantaged and hard to reach groups were identified.

Overview of included studies

- Four studies were included in the review: three multiple evaluations of UK programmes (evaluating 64 programmes - some overlaps between studies) and one individual evaluation of a UK programme.
- The majority of the evidence related to health checks, weight management or exercise programmes delivered in a community setting and targeted at various 'mid-life' groups.

Service delivery – general mid-life

- There were some common service delivery themes that appeared in the studies. A schematic model was developed to show the key service delivery features.
- The NHS Health Checks programme may engage this group, but it may be worth considering how to incorporate referals out to healthy lifestyle programmes, how to engage men, and how to address wider wellbeing issues, such as financial planning, employment, retirement planning, etc.

Service delivery – disadvantaged groups

- Specific adaptations to services may be required to tailor delivery, such as free services for low SES, gender segregated for specific BME groups, an out-reach model for homeless people.
- The 40+ lower age range on the current NHS Health Checks programme means that people aged 18-39 from disadvantaged groups who could be defined as 'mid-life' will not be reached; hence, when targeting healthy lifestyle services at this group it may be appropriate to include health checks.

Conclusions

- At the heart of delivering a good service appears to be the fundamental principle of understanding the needs of the target population and having culturally sensitive and motivated programme staff to drive the programme forward.

1.1 Service Delivery Summary Points

The following summary point has been identified for configuring service delivery to the mid-life population as a whole.

Summary point 1 – Universal principles
There were some universal principles to service delivery which appeared across the studies (Bowers, 2003; Gidlow & Ellis, 2010; Ryan, 2010; Taylor, 2011): • Understand the needs of the community and work with them to develop the service • Link in with existing networks and partnerships to ensure that referrals between services are managed, there are no duplications of effort/resource, and that people have ongoing support • Have culturally sensitive and motivated programme staff (possibly including lay and community members) to drive the programme forward. See Figure 1 (pg. 20) for a schematic model of the key features of service delivery.

The following summary point has been identified for configuring service delivery to the general mid-life population (aged 40-64 years and not considered to be disadvantaged).

Summary point 2 – General mid-life
People in mid-life from the general population (aged 40-64 years and not considered to be disadvantaged) did not have any specific needs beyond the universal principles identified above. However, there were some potentially useful insights from the included studies (Bowers, 2003; Gidlow & Ellis, 2010; Ryan, 2010; Taylor, 2011) that may provide inferences on how to maximise the function of NHS health checks programme: • The outward referrals from the NHS health checks programmes to healthy lifestyle programmes need to be strong • Non clinical settings or a specific focus on male health may need to be considered for delivering health checks to men • People in rural settings may need outreach models of delivery • People in this age group often expressed a wish for other types of information, such as financial advice and information on employability or retirement planning: ○ building on the momentum of the Health Checks programme might allow for other initiatives to be developed to run alongside it that do focus on wider issues of wellbeing, for example some form of ‘Wealth Check’ or ‘Life Check’.

The following summary points have been identified for configuring service delivery to specific disadvantaged or hard to reach mid-life populations (aged 18-39 years).

Summary point 3 – Low SES
The main motivator for encouraging people from a deprived area to take up a healthy lifestyle service appeared to be the provision of a free service (Bowers, 2003; Ryan, 2010).

Summary point 4 – BME
People from BME communities, especially South Asian communities, may require the following adaptations to services (Naz, 2011; Ryan 2010; Taylor, 2011): • Gender-segregated programmes • Delivery in appropriate languages and formats • Culturally sensitive information and advice • Culturally appropriate settings (e.g. Mosques) • Good role models/champions from within that community • Provision of child care for women (or a service that includes young children).

Summary point 5 – Travellers
People from traveller communities may require the following adaptations to services (Taylor, 2011): • Delivery using audio-visual or face-to-face format, rather than written • Culturally sensitive information and advice • Flexibility to allow for different approaches to time-keeping • Cross-boundary referral arrangements and establishing a nationwide network of practitioners who work with these communities.

Summary point 6 – Homeless
To engage homeless people in health checks the following service delivery features were identified (Taylor, 2011): • Incentives, possibly incorporating free healthy food, can encourage homeless people to engage with health checks • The setting for the health check has to be appropriate, for example out-reach services based in homeless shelters and temporary accommodation.

Summary point 7 – Learning disabilities
People with learning disabilities may require the following adaptations to services (Taylor, 2011): • Information needs to be tailored to an appropriate level • Educating carers was important for sustainability • Programmes may need to run over longer periods of time to allow for a more comfortable pace of learning • Delivery in familiar and convenient locations (considering accessibility and transport links) • There needs to be a shift in culture away from therapeutic nihilism and the idea that poor physical health is inherently linked to the person's diagnosis • Staff need to be well trained in working with this group and need to be highly motivated to make a difference.

Summary point 8 – Severe mental illness
People with a severe mental illness may require the following adaptations to services (Taylor, 2011): • Tailored and flexible multi-modal interventions (diet, exercise and behavioural) may be most appropriate in preventing/reducing antipsychotic-induced weight gain in adults with severe mental illness • Small and definable stepwise goals • A group setting and the peer support this provides • Open-ended support may be required • Staff need to be well trained in working with this group and need to be highly motivated to make a difference • There needs to be a shift in culture away from therapeutic nihilism and the idea that poor physical health is inherently linked to the person's diagnosis.

Summary point 9 – Prisoners
People in a prison setting may require the following adaptations to services (Taylor, 2011): • Strong partnerships between prison-based health care staff and any external agencies providing programmes is needed • To reduce contractual delays all relevant access rights (such as access to prisoner health records) need to be put in place at programme initiation • Access to facilities, such as gyms, and the availability of healthy foods, both free and purchasable, need to be considered in the context of the routine and regimes in which these access rights occur • A prison wide approach to health promotion needs to be adopted.

The following summary points have been identified for configuring service delivery to specific genders and age groups.

Summary point 10 – Gender issues
Across the studies women generally seemed more willing to engage, thus it may be appropriate to specifically tailor services to the needs of men, and the following adaptations appeared to have been useful in the studies reviewed (Bowers, 2003; Ryan, 2010; Ecorys UK, 2013): • Men only services • Locations where men naturally meet (work, social clubs, cafes) • Services delivering interventions which link in with men's interests (such as football, Wii games, Nordic walking). Gender adaptations to services were also important for women from certain disadvantaged groups, such as BME, who may require (Taylor, 2011): • Gender-segregated programmes • Provision of child care for women (or a service that includes young children).

Summary point 11 – Age range
There were some insights specifically relating to defining a service by age range: • Labelling a service by age may invariably lead people at the lower age range of that service to not see themselves associated with it (Ecorys UK, 2013) • Viewing the life course in relation to chronological age stages may not be helpful for designing services; instead it may be better to view life as a series of transitions and to focus on helping people prepare for these transitions (Wealleans, 2013) • Furthermore, considering that the remit of this guidance is not simply mid-life defined as 40-64 years, but also includes the 18-39 year age group for disadvantaged populations, there is the possibility that defining a service as 'mid-life' could increase inequalities by inadvertently excluding the groups who are most in need • The NHS Health Checks lower age limit of 40 years may inadvertently be excluding mid-life people from disadvantaged groups.

The following summary point has been identified for configuring the delivery of population levels interventions, such as public health campaigns.

Summary point 12 – Population level
There was limited evidence on how to deliver population level interventions, such as public health campaigns; and none specifically focussing on mid-life populations. However, insights from a HDA report (HDA, 2004) which looked at the delivery of the

anti-smoking campaigns of the 1990s indicated that:

- Mass media campaigns are useful for changing awareness and knowledge on a large scale but may be most useful when combined with back up services and programmes on the ground
    - This may be especially true for many complex behaviour changes, such as exercise
- 'Threatening' and 'supportive' styles of delivery are often both needed
- An emotional hook is needed to engage people, such as, fear, sympathy or aspiration
- TV advertising is often better at providing threatening 'jolt' messages than more supportive messages
- Large budgets are needed, thus careful consideration of the expected benefits to justify the cost outlay need to be made at the outset
- For media campaigns to have the most impact, media authorities generally need to be 'on side'.

2 Background and context

The Centre for Public Health (CPH), at the National Institute for Health and Care Excellence (NICE), was asked by the Department of Health to develop public health guidance on preventive approaches to be adopted in mid-life to delay the onset of disability, dementia and frailty in later life. Mid-life is broadly defined in the literature and practice; however, following consultation with stakeholders NICE took the decision to use an age range of 40-64 years for the general population and an age range of 18-39 years for disadvantaged populations. This lower age range for disadvantaged populations reflects that the impact of risk factors may be seen earlier in this group and as such 'mid-life' may occur earlier for this population. For the purposes of this guidance, disadvantaged populations were identified as (but not limited to): low socioeconomic status (SES); black and minority ethnic (BME); travellers; people of no fixed abode; and other vulnerable groups.

To support the development of this guidance, three systematic reviews have been commissioned which address the following questions defined at scope:

1) Which mid-life lifestyle factors are associated with successful ageing and the primary prevention or delay of dementia, non-communicable chronic conditions, frailty and disability?

2) What are the most effective and cost-effective mid-life interventions for increasing the uptake and maintenance of healthy lifestyle behaviours?

3) What are the key issues for people in mid-life that prevent or limit their uptake and maintenance of healthy behaviours and to what extent do they have an effect? How does this differ for subpopulations, for example by ethnicity, socioeconomic status or gender?

This suite of reviews, in conjunction with the economic analysis and expert testimony, will provide a substantial body of evidence on how mid-life lifestyle behaviours are associated with successful aging, the barriers and facilitators to adopting healthy lifestyle behaviours in mid-life, and the effectiveness and cost-effectiveness of interventions aiming at increasing healthy lifestyle behaviours in mid-life. However, the contextual information on how to tailor the delivery of lifestyle interventions to mid-life populations will not be captured within this. To address this deficit, an additional research question was developed at the scoping stage:

4) What are the most effective models of delivery of interventions that increase the uptake and maintenance of healthy lifestyle behaviours in mid-life? For example, how do interventions targeting single versus multiple behaviours compare? How does effectiveness and cost effectiveness vary in relation to the recipient's demographic variables?

Given the practical nature of the question, a pragmatic and focussed review of the evidence from real-world programmes was deemed more appropriate than a full systematic review.

3 Objectives

To determine the service delivery features of real-world UK 'healthy lifestyle' mid-life programmes, with a focus on factors which contribute to uptake and maintenance of programmes. Any potential service configurations that might be appropriate to engage disadvantaged and hard to reach groups will also be identified and discussed. The review aims to provide an overarching view of the organisational and service delivery features that are associated with successful programme delivery, rather than an exhaustive interrogation of all UK programmes.

4 Methods

A pragmatic and focussed review was undertaken to address the objectives of the review.

4.1 Identifying the evidence

The identification of the evidence involved both a targeted and pragmatic approach.

4.1.1 Targeted approach

Evidence was requested for this review question in a formal NICE call for evidence (June 2013) and a specific request to the Public Health Advisory Committee (PHAC) developing this guidance (February 2014). It was also deemed useful to attempt to utilise some of the extensive searches and screening that was undertaken by Cambridge Institute of Public Health in the production of their reviews to support this guidance. Review 1 (barriers and facilitators) was completed during the time that the targeted search phase was being conducted for this report (December 2013). As such, the 663 articles identified at full text stage for review 1 were re-screened for relevance to this research question.

4.1.2 Pragmatic approach

The team at CPH identified that three previous reviews of healthy lifestyle programmes had been undertaken which discussed service delivery factors and were thus highly pertinent to this review question:

- An evaluation of mid-life programmes to support the Health Development Agency (HDA) appraisal of routes to mid-life healthy aging (Bowers, 2003)
- A pragmatic review of interventions to prevent type 2 diabetes in high risk disadvantaged and vulnerable adults to support NICE PH38 guidance development (Taylor, 2011)
- An evaluation of community programmes for preventing pre-diabetes in adults from high risk groups to support NICE PH35 guidance development (Ryan, 2010).

In addition to this, any studies which were identified via ad hoc web searches undertaken as part of the broader guidance development process were considered for inclusion.

4.1.3 Search dates

The date limit for including studies was 31st December 2013, apart from PHAC submitted studies which were considered upto 21st February 2014. Studies submitted by the PHAC after this date were not included in the review but the references are available in Appendix 3 for interested readers.

4.2 Selecting the evidence

4.2.1 Inclusion/Exclusion criteria

The following inclusion/exclusion criteria were used:

Population

People in mid-life, defined as 40-64 years. The age range was lowered to include 18-39 years for disadvantaged groups. Studies which included >50% of people aged over 64 or under 18 were excluded.

Intervention/Programme

Programmes that promote the uptake or maintenance of physical activity, healthy diet, quitting smoking, reducing alcohol intake, improving cognitive abilities, or general healthy lifestyle interventions, including health checks and advice. Studies which could not be considered to be 'healthy lifestyle' were excluded.

Outcomes

Provided a description of the service delivery factors which affected the uptake and maintenance of a programme, and other organisational factors, such as staff and setting. Studies which reported on the effectiveness of an intervention or the barriers and facilitators without any clear discussion of service delivery factors were excluded.

Setting

Any 'real-world' UK setting, such as work, community or primary care. Studies conducted in non-UK settings were excluded.

Type of study

Evaluation studies of individual or multiple programmes which can be considered to be promoting a healthy lifestyle. Reviews of evaluation studies of programmes will also be included. Studies which did not present an evaluation of a programme were excluded.

4.3 Data extraction and synthesis

Studies were extracted into structured tables and a narrative synthesis was undertaken aimed at building up an iterative understanding of the delivery of healthy lifestyle programmes to 'mid-life' populations in the UK. A schematic model was also developed, focussing on key service delivery outcomes, including uptake and maintenance. Where possible, adaptations to service delivery that would be required to meet the needs of disadvantaged groups or other hard-to-reach groups were identified and discussed.

5 Overview of included studies

The flow diagram in Appendix 1 shows the process for identifying the relevant studies and the table of excluded studies is presented in Appendix 2. Studies submitted by the PHAC after the end of the search date (21st February 2014) were not considered for inclusion in the review, but the references and a brief description are available in Appendix 3.

Four studies were included in the review: three multiple evaluations of UK programmes (evaluating 64 programmes – some overlaps between studies) and one individual evaluation of UK programme (see

Table 1 for an overview of the studies). The evidence covered risk assessments including health checks, as well as lifestyle behaviour programmes such as weight management or exercise programmes.

Table 1 Overview of included studies

Study	Type of study	Setting	Population	Type of programme(s)
Bowers H, 2003	Multiple evaluation of 8 programmes from across England	Community, workplace, primary care	Mid-life population with some disadvantaged groups	Various programmes with many delivering health checks and/or training
Ryan M, 2010	Multiple evaluation of 32 programmes from across the UK	Community	A range of disadvantaged groups, with a focus on those at high risk of developing diabetes	Various programmes, including health checks, exercise, weight management, cooking classes, and creative activities
Taylor J, 2011	Multiple evaluation of 24 lifestyle programmes from across the UK	Community, prisons, workplace	A range of disadvantaged groups, with a focus on those at high risk of developing diabetes	Various programmes, including health checks, exercise, weight management, cooking classes, and education
Gidlow G, 2010	Individual evaluation of a programme in the West Midlands	Community	Mid-life specific	Healthy lifestyle check followed by a personal action plan if desired/needed – Beth Johnson Foundation

5.1 Evaluations of multiple programmes (n=3)

Of the three evaluations of multiple programmes, two focussed on people from disadvantaged groups who may be at high risk of diabetes (Ryan, 2010; Taylor, 2011), and one was specifically looking at mid-life pre-retirement (Bowers, 2003). Extraction sheets describing the key objectives and service delivery findings for each of the three multiple evaluation reports are presented in below. A brief overview of the individual programmes within each of the evaluation reports is presented in Appendix 4.

Bowers et al (2003)	
Objectives	To evaluate eight programmes across England which aimed to support and promote health amongst people aged 50 to 65 years old. The evaluation was prompted by the Pre-retirement Health Initiative aimed at reaching people in mid-life and supporting them in considering their health and wellbeing with the hope that they will experience a healthy and active older age as a result.
Methods	Theories of change and realistic evaluation. Eight programmes across England were evaluated.
Type of programme	The eight programmes included a range of activities delivered in various settings, although half involved delivering some form of health check in the community. Some of the projects focussed on disadvantaged groups such as BME.

Key service delivery themes	<u>Programme conception</u>
	• The people receiving the service should be part of shaping and developing services so as to give people a sense of ownership of the service, as well as empowerment over their own lives
	• Partnership working is crucial and building on existing partnerships can save time and duplication of effort
	• There has to be a clarity of purpose and a commitment to the goals across the range of partners and organisations involved in delivering the service, but with flexibility to adapt to changing local and national needs.
	<u>Settings</u>
	• There was no one setting that would suit everyone, but setting was deemed crucially important. The following settings were identified as useful in some contexts:
	  ○ primary care may be an appropriate setting for delivering clinically oriented services to women in relatively affluent areas
	  ○ the workplace is an appropriate setting for engaging men in full-time employment and may also have a role in engaging BME female workers
	  ○ community settings were identified as an effective way of reaching marginalised groups, isolated people and those living in rural locations.
	<u>Staff</u>
	• A welcoming atmosphere created by staff is crucial
	<u>Motivating uptake</u>
	• The provision of free services was found to be a strong motivator for initial uptake
	  ○ in particular free health checks were found to stimulate curiosity and motivate engagement
	• The provision of financial information, and other non-health information, alongside health information was also found to be a strong motivator.
	<u>Delivery</u>
	• Review the skill mix in the team regularly to ensure emerging needs can be met.
	<u>Maintaining engagement</u>
	• Involving people in the development of services from the outset was found to encourage maintenance of engagement
	• An evidence gap in maintaining longer-term engagement was identified.

Ryan (2010)	
Objectives	To provide an overview of the range and type of community programmes being delivered in the UK to addressing risk factors for the development of pre-diabetes in high risk groups.
Methods	A request for UK programmes to provide information on their outcomes/evaluations, followed by a rapid review of these programmes.
Type of programme	Thirty two programmes were identified. All of the programmes were conducted in the community and in high risk groups.
Key service delivery themes	<u>Programme conception</u> • There was a common theme of 'know your audience' and the importance of developing programmes that suit the needs of the community • Training up lay people from the community and working with existing services, including voluntary services, can help make projects sustainable • When planning to deliver services to BME groups it is important to develop relationships with Community Leaders. <u>Settings</u> • The use of local and appropriate venues where the target population meet was important. <u>Staff</u> • Staff who understood the community they were working with and took non-judgemental approaches were best received, such as community facilitators/champions. <u>Motivating uptake</u> • Free or low cost programmes appeared to be important in deprived areas (although this was not explicitly linked to uptake the fact that it was a barrier can be inferred to have had an impact on uptake). <u>Delivery</u> • Culturally appropriate information and support was crucial • People responded best when they could see or do something (active involvement), rather than just being told about it (passive delivery) • Goal setting was seen as important as people liked having something to work towards • Consistent, clear and simple messages were crucial, particularly around healthy eating. <u>Maintaining engagement</u> • Post-intervention support is crucial, especially in weight loss programmes • Programmes need to focus on how people can make small but significant changes in their lifestyle that they can maintain for the rest of their lives.

Taylor (2011)	
Objectives	To review interventions to identify or prevent type 2 diabetes in high risk adults in vulnerable and disadvantaged groups. The review was part of the development of NICE guidance (PH38).
Methods	A pragmatic review of the evidence.
Type of programme	Twenty four programmes were identified. A range of settings were included, although most were conducted in the community. All of the included studies were in disadvantaged groups: prisoners (1); homeless (1); mental illness (2); learning disabilities (4); travellers (2); low SES (8); BME (6).
Key service delivery themes	<u>Programme conception</u> • The people receiving the service should be part of shaping and evaluating the service • Effective inter-agency working to facilitate inward and outward referrals • Sustainable funding • Simple and low-cost programme adaptations to tailor programmes to different target populations. <u>Settings</u> • There was no one setting that was singled out but the following features were noted: ○ outreach delivery in convenient and appropriate local venues. <u>Staff</u> • Sensitive, well-trained and dedicated staff. <u>Motivating uptake</u> • Widespread, varied and targeted publicity. <u>Delivery</u> • Methods of communication and resources that are accessible and understandable to the target population • The programme should be practical and where goals are set they should be realistic and achievable • Tailored and culturally appropriate approaches which reflect the needs of the target population. <u>Maintaining engagement</u> • The use of activities and other lifestyle services that are available within the community to provide on-going support post-intervention • Social support through engagement with the wider community.

5.2 Evaluations of individual programmes (n=1)

One evaluation of the Beth Johnson mid-life programme was identified (Gidlow & Ellis, 2010); an extraction sheet describing the key objectives and service delivery findings is presented below.

5.2.1 Insights from excluded studies

A further evaluation of an individual programme was identified which did not meet the inclusion criteria in terms of age (an Age UK study which had > 50% of people aged over 64). However, it was deemed to have some useful insights around targeting services at specific age groups and targeting services at men. As such, an extraction sheet of the key insights is presented in Appendix 5.

Likewise, a further study in BME groups which was focussed more on barriers and facilitators, than on service delivery, was excluded but also deemed to offer some useful insights, especially around service delivery to BME groups (see Appendix 4 for an extraction sheet).

Gidlow & Ellis (2010)	
Programme details	To deliver community and workplace based health checks and to deliver opportunistic health and lifestyle assessments, advice and support.
Intervention	Multi-component and tailored with a large focus on healthy lifestyle but also included broader wellbeing issues. (Beth Johnson Foundation)
Age, setting and delivery	Target group: Mid -life Age: 45 years and over Setting: Community and workplace (e.g. Asda, community centre) in Stoke on Trent Delivery: Lay staff.
Programme results	512 participants had a healthy lifestyle check, of which 158 (31%) completed an action plan. Of the 158 who completed the action plan, 45 (28.5%) continued engagement for 12 weeks, whilst 113 disengaged (71.5%). There were also 11 peer health mentors during this period. Participants reported benefits for mental and social well-being. The programme was also deemed to have a public health role in prompting people with a real health need (such as elevated BP) to visit the GP.
Evaluation details	Collection and analysis of 12 month data from July 2008 to July 2009, together with qualitative interviews and focus groups of both people who engaged with the service and those deemed disengaged, as well as stakeholders. The data collected were the healthy lifestyle checks, participant characteristics, numbers taking up and completing the programme, and self-reported measures of participant/stakeholder experiences.
Programme success	• The success of the intervention was described as being reliant on the 'people and the programme' • The community development and workplace approach to engagement proved successful in reaching the target group i.e. people in mid-life. • This was particularly because the project was viewed as an alternative to the traditional medical model and was delivered in non-clinical settings • The project was successful in reaching people with a genuine health need and linking them into primary care services where appropriate • The authors noted that even for those who disengaged (71.5%) there may still have been lifestyle changes, thus the benefits of the scheme may not be restricted to only those who remained engaged.
Key service delivery themes	• The community setting was deemed of high importance to the participants and possibly a way of engaging people who would only ever go to a doctor when unwell • The use of lay workers was considered paramount with participants expressing a preference to speaking with lay people over medical staff • The programme workers were also described as being genuinely interested in the participants, which was likely a major factor • Stakeholders (e.g. local businesses involved in the programme) viewed the programme as beneficial to the welfare of their staff and thus staff productivity.

6 Service delivery

There were some common service delivery themes that consistently appeared in the included studies, many of which appeared to be irrespective of population or intervention, such as the universal principles of:

- Understand the needs of the community and work with them to develop the service
- Link in with existing networks and partnerships to ensure that referrals between services are managed, there are no duplications of effort/resource, and that people have ongoing support
- Have culturally sensitive and motivated programme staff (possibly including lay and community members) to drive the programme forward.

Expanding on the common themes in the included studies, a model of the key aspects of service delivery are shown in Figure 1, split into programme organisation and planning, and programme roll-out and sustainability.

The specific insights that may apply to targeting a service at particular mid-life populations.

6.1 General mid-life population

People aged 40-64, who are not from a disadvantaged group were studied in many of the health check programmes included in the multiple evaluation studies and the evaluation of the Beth Johnson programme by Gidlow & Ellis. They generally engaged well in these programmes, although it was commented that clinical settings were more likely to attract women than men.

Since the programmes in this review were undertaken there is now a national NHS Health Checks programme for the over 40s which will likely capture many people from this general ‘mid-life’ group, although again possibly fewer men. This review cannot comment directly on the effectiveness or service delivery aspects of the NHS Health Checks model as it is not part of this review (although it will be presented to the PHAC in the form of expert testimony). However, beyond assessing risk in a health check programme, there are the ‘healthy lifestyle’ behavioural programmes that people may need to be referred to, such as healthy eating, diet, and exercise

classes. In attempting to build on the reach of the NHS Health Checks programme, and using the learnings from this review, some possible insights are:

- The outward referrals from the NHS health checks programmes to healthy lifestyle programmes need to be strong
- Non clinical settings or a specific focus on male health may need to be considered for delivering health checks to men
- People in rural settings may need alternative settings or outreach models of delivery
- People in this age group often expressed a wish for other types of information, such as financial advice and information on employability or retirement planning:
    - this sort of information does not naturally fit a clinical setting, nor would it be a good use of health professionals time, but building on the momentum of the Health Checks programme might allow for other initiatives to be developed to run alongside it that do focus on wider issues of wellbeing, for example some form of 'Wealth Check' or 'Life Check'.

It is also worth noting that the NHS Health Checks programme is set at 40+. Considering that mid-life in disadvantaged groups could be as young as 18-39, the NHS Health Check may not be reaching those most in need and therefore could represent an inequality in access. How this is being addressed in the current NHS Health Checks programme is beyond the remit of this report (expert testimony is being provided on the Health Checks programme).

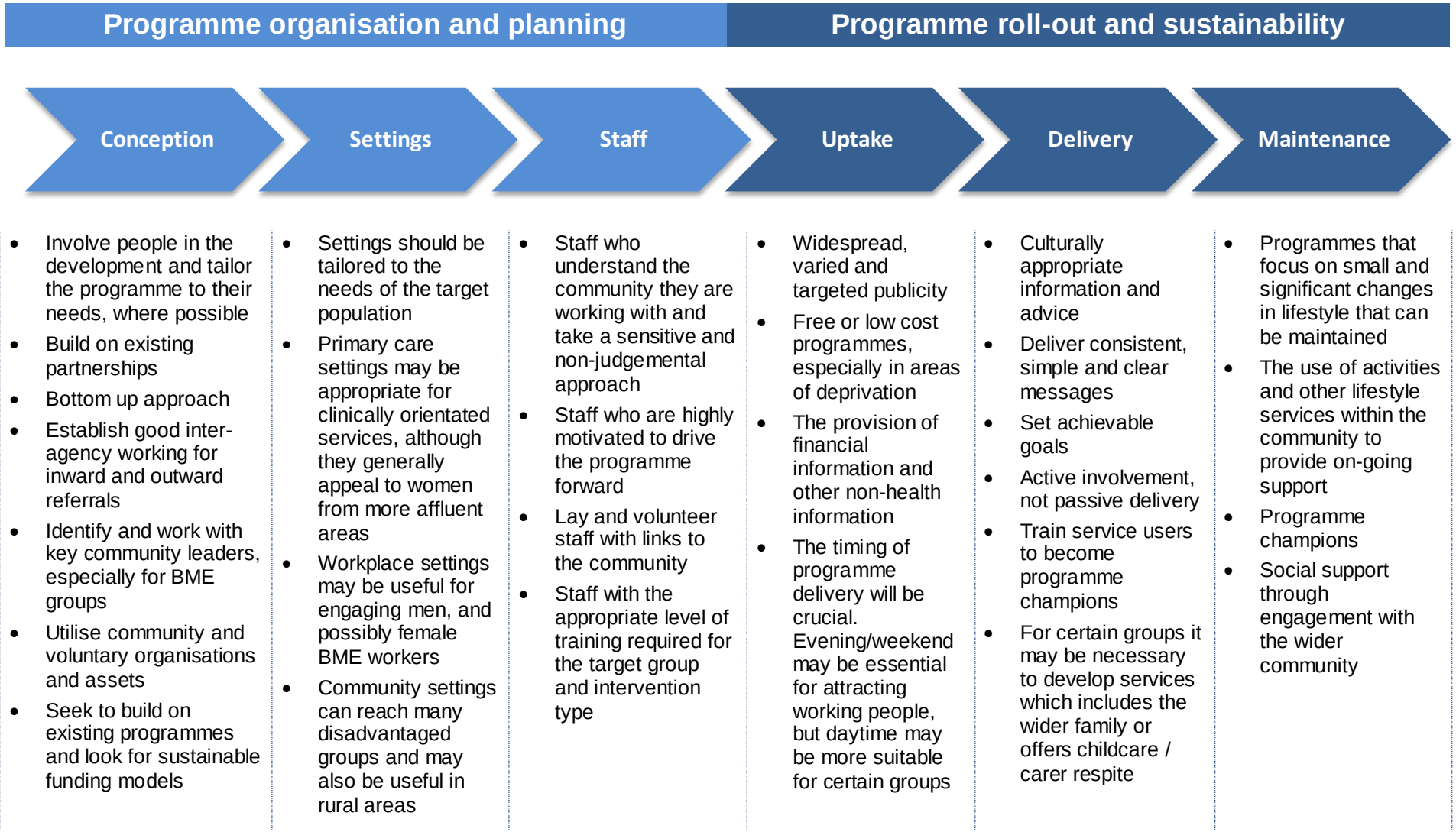

Figure 1 Model of the key features of service delivery of healthy lifestyle programmes

6.2 Targeting disadvantaged groups

The majority of the evidence in this review relates to disadvantaged groups. In general the message appears to be: work with the community to understand their needs and develop the service with them. However there are some specific adaptations and service delivery features that may be worth considering when configuring services in certain disadvantaged groups.

Of prime importance, as noted in Section 6.1, is that the current NHS Health Checks programme does not reach this group. As such, when developing healthy lifestyle services to disadvantaged groups, a health check may need to be on the forefront of the agenda. A number of the included studies delivered health checks in the community, thus this could be a potentially useful setting. Many of the studies also incorporated a health check/risk assessment with a healthy lifestyle programme, which may be a viable option for certain disadvantaged groups. However, within the term disadvantaged group is a heterogeneous group of people, with distinct needs that may require different service delivery configurations. As such, the key insights from this review in relation to delivering a healthy lifestyle service to specific groups is discussed below.

6.2.1 Deprived areas and low SES

The main motivator for encouraging people from a deprived area to take up a healthy lifestyle service appeared to be the provision of a free service (Bowers, 2003; Ryan, 2010; Taylor, 2011). Hence, free or substantially reduced cost services may be required for this group. The current NHS Health Check would likely engage these people, as it is free; however, the lower age limit of 40+ means they are not able to access the service. Behavioural healthy lifestyle programmes, such as exercise classes and weight management services, may also not currently be accessible if they incur a financial cost.

6.2.2 BME

People from BME communities, especially South Asian communities, may require more substantial adaptations to services (Naz, 2011; Ryan 2010; Taylor, 2011), such as the following:

- Gender-segregated programmes
- Delivery in appropriate languages and formats
- Culturally sensitive information and advice
- Culturally appropriate settings (e.g. Mosques)
- Good role models/champions from within that community
- Provision of child care for women (or a service that includes young children).

6.2.3 Travellers

There was limited evidence of how to configure services to encourage travellers to engage in healthy lifestyle programmes. However, the evidence that was available (Taylor, 2011) identified the following service delivery features:

- Delivery using audio-visual or face-to-face format, rather than written
- Culturally sensitive information and advice
- Flexibility to allow for different approaches to time-keeping
- Cross-boundary referral arrangements and establishing a nationwide network of practitioners who work with these communities.

Although not explicitly stated in the Taylor review, there was some indication that the barriers faced by BME communities were similar to those faced by traveller communities, thus the following service delivery configurations may also be appropriate:

- Good role models/champions from within that community
- Gender-segregated programmes
- Provision of child care for women (or a service that includes young children).

6.2.4 Vulnerable groups

For the most hard to reach and vulnerable groups a person-centred case-management approach may be the most appropriate (Taylor, 2011). However, there were some insights into how to adapt services to meet the needs of specific vulnerable groups.

Homeless

There was limited evidence of how to configure services to meet the needs of homeless people. However, the evidence that was available on health checks (Taylor, 2011) indicated that:

- Incentives, possibly incorporating free healthy food, can encourage homeless people to engage with health checks
- The setting for the health check has to be appropriate, for example out-reach services based in homeless shelters and temporary accommodation.

Learning disabilities

There was limited evidence of how to configure services to meet the needs of people with learning disabilities. However, the evidence that was available (Taylor, 2011) indicated that:

- Information needs to be tailored to an appropriate level
    - However, this can be time consuming and resource intensive if the starting point is a general programme so learning from other programmes targeting people with learning disabilities may be prudent
- Educating carers was important for sustainability
    - This could also be inferred to have an impact on the carer's health
- Programmes may need to run over longer periods of time to allow for a more comfortable pace of learning
- Delivery in familiar and convenient locations
    - Consideration should be given to how people will reach the service as requiring special transport be provided can add an additional complexity, resource and time implication
- There needs to be a shift in culture away from therapeutic nihilism and the idea that poor physical health is inherently linked to the person's diagnosis
- Staff need to be well trained in working with this group and need to be highly motivated to make a difference.

Severe mental illness

There was limited evidence of how to configure services to meet the needs of people with severe mental illness. However, the evidence that was available (Taylor, 2011) indicated that:

- Tailored and flexible multi-modal interventions (diet, exercise and behavioural) may be most appropriate in preventing/reducing antipsychotic-induced weight gain in adults with severe mental illness
- Small and definable stepwise goals
- A group setting and the peer support this provides
- Open-ended support may be required
- Staff need to be well trained in working with this group and need to be highly motivated to make a difference
- There needs to be a shift in culture away from therapeutic nihilism and the idea that poor physical health is inherently linked to the person's diagnosis.

Prisoners

There was limited evidence of how to configure services to encourage prisoners to engage in healthy lifestyle programmes. However, the evidence that was available (Taylor, 2011) identified the following service delivery features:

- Strong partnerships between prison-based health care staff and external agencies providing programmes is needed
- To reduce contractual delays all relevant access rights (such as access to prisoner health records) need to be put in place at programme initiation
- Access to facilities, such as gyms, and the availability of healthy foods, both free and purchasable, need to be considered in the context of the routine and regimes in which these access rights occur
- A prison-wide approach to health promotion needs to be adopted.

6.3 Targeting by gender

Across the studies women generally seemed more willing to engage, possibly because the programmes naturally targeted women. Thus men were generally

under-represented in many of the programmes. Hence, it may be appropriate to specifically tailor services to the needs of men, and the following adaptations appeared to have been useful in the studies reviewed (Bowers, 2003; Ryan, 2010; Ecorys UK, 2013):

- Men only services
- Locations where men naturally meet (work, social clubs, cafes)
- Services delivering interventions which link in with men's interests (such as football, Wii games, Nordic walking).

6.4 Targeting by age

In general the main body of research did not identify any major problems with developing a service that targets a specific age range. In fact the research suggested that people in mid-life often felt excluded by adult services and too young for older services (Bower, 2003). However, the Age UK study which targeted the over 50s did identify some potential problems (see Ecorys UK, 2013; Appendix 4), which indicated that:

- Labelling a service by age may invariably lead people at the lower age range of that service to not see themselves associated with it
    - for example Age UK's over 50s programme generally attracted over 60-65s

Furthermore, considering that the remit of this guidance is not simply mid-life defined as 40-64 years, but also includes the 18-39 year age group for disadvantaged populations, there is the possibility that defining a service as 'mid-life' could increase inequalities by inadvertently excluding the groups who are most in need. The studies included in this pragmatic review could not address this issue thus it was deemed necessary to look for potential insights from any articles related to the included studies.

The Beth Johnson Foundation recently considered an alternative to age-related definitions of aging (Wealleans, 2013). The report provides a wealth of information, of which some of the key messages around delivering services appear to be:

- Ageing is an integral part of the life course, however, viewing the life course in relation to chronological age stages may not be helpful for designing services
- Instead it may be better to view life as a series of transitions and to focus on helping people prepare for these transitions
- By targeting interventions at particular life stages it may encourage individuals to take more control of their lives and build up strong coping mechanisms for the future.

6.5 Population level programmes

This review did not identify any studies which provided information on how to deliver population level programmes, such as mass media public health campaigns. However, as this may be an important aspect to encouraging people to adopt a healthy lifestyle it seemed pertinent to look for potential insights from any articles related to the included studies.

The HDA produced a brief report in 2004 specifically looking at public health campaigns (HDA, 2004). However, this report is not mid-life specific and thus cannot provide specific information on the approaches that may be most successful to mid-life populations. Nevertheless, the report provides potentially useful insights into how to deliver public health campaigns (using the anti-smoking campaigns from the 1990s as the example):

- Mass media campaigns are useful for changing awareness and knowledge on a large scale but may be most useful when combined with back up services and programmes on the ground
    - This may be especially true for many complex behaviour changes, such as increasing physical activity
- 'Threatening' and 'supportive' styles of delivery are often both needed
- An emotional hook is needed to engage people, such as, fear, sympathy or aspiration
- TV advertising, in particular, is often better at providing threatening 'jolt' messages than more supportive messages
- Large budgets are needed, thus careful consideration of the expected benefits to justify the cost outlay need to be made at the outset

- For media campaigns to have the most impact, media authorities generally need to be ‘on side’.

7 Conclusions

This review has provided an overview of key service delivery factors that are likely to be important when developing a healthy lifestyle programme. At the heart of delivering a good service, which people actually use and value, appears to be the fundamental principle of understanding the needs of the target population and having culturally sensitive and motivated programme staff (possibly including lay and community members) to drive the programme forward. Further service delivery considerations, such as reduced price of the service, availability of childcare, culturally appropriate settings and gender-specific programmes may also help engage the most vulnerable groups.

7.1 Limitations

This was a rapid and pragmatic review and as such it did not set out to be a comprehensive assessment of every evaluation of a UK healthy lifestyle programme conducted in the ‘mid-life’ population. In taking this approach there may be additional studies that have been missed; the most influential of which are likely to be studies in some of the less well-represented populations in this review, such as travellers, people of no fixed abode, and certain BME groups. However, the key service delivery findings of understanding and working with the target community to develop the programme, and having culturally sensitive and motivated programme staff, in effect advocates that the target population should be integral to the programme development. There are also many programmes that have been undertaken in specific disadvantaged and hard to reach groups and it would seem prudent to use the wealth of evidence of what works in these programmes to also inform service delivery at the outset. Adaptations to service delivery that may help encourage uptake in disadvantaged and hard to reach groups have been discussed in this review, but always at the crux of this is the ideal that the service should be developed and delivered ‘with’ the target population and not ‘to’ the target population.

A further limitation was the lack of studies looking at broader population measures, such as media campaigns to raise awareness. Furthermore, there was no evidence addressing how to deliver public health campaigns specifically to mid-life populations.

7.1.1 Evidence gaps in relation to the scope question

The studies included in this pragmatic review could not fully address the sub-questions in the scope relating to:

- How does effectiveness and cost effectiveness vary in relation to the recipient's demographic variables?
- How do interventions targeting single versus multiple behaviours compare?

However, the review did highlight how services could be tailored on the basis of demographic factors. The review also highlighted how crucial service delivery factors are to programme success, which in turn is likely to strongly affect the uptake and maintenance of programmes, and in turn the effectiveness and cost-effectiveness of programmes. However, with the evidence presented here it is not possible to quantify how effective and cost-effective different service delivery models are at a whole system level, or according to recipient demographics.

In terms of multiple versus single behaviours, there was a small amount of evidence to indicate that multi-modal interventions incorporating diet, exercise and behavioural factors may be appropriate in targeting antipsychotic-induced weight gain in people with severe mental illness. However, these multi-modal interventions were not compared with single-behaviour programmes, thus no comment can be made as to whether they are the most effective programme. Similarly, no comment can be made on the cost-effectiveness of these programmes.

The review also highlighted the importance of involving service users in the development of services, which should help commissioners/providers of services determine whether to deliver single or multi-component interventions to their local population.

8 References

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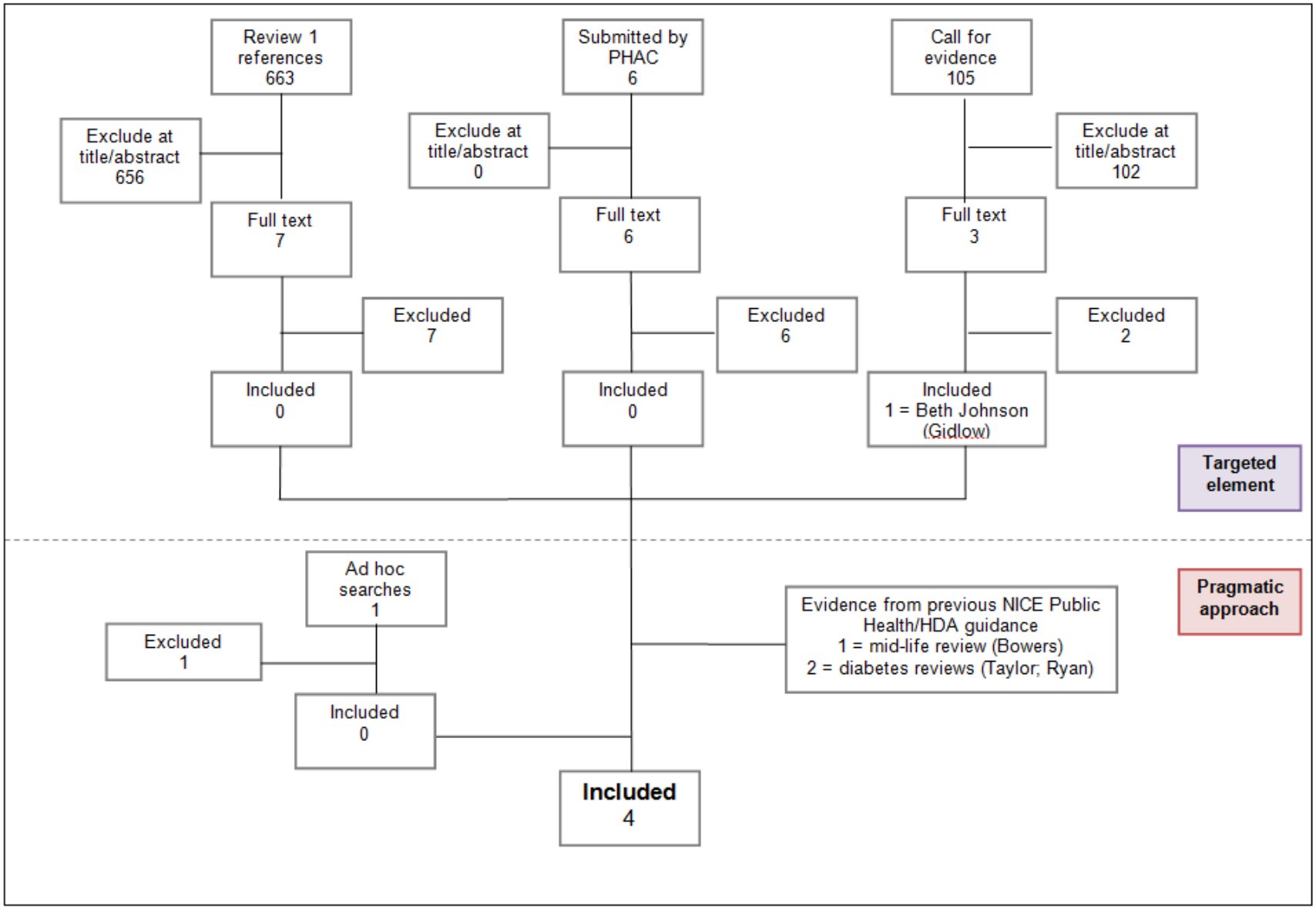
Appendix 1: Flow diagram of included studies



Appendix 2: Excluded studies

Study (n=16)	Where found	Reason for exclusion	Any relevant insights?
Future sight loss UK (1): The economic impact of partial sight and blindness in the UK adult population Executive summary. Report prepared for RNIB by Access Economics Pty Limited June 2009	Call for evidence	Outcomes – Not service delivery	NA
Ritchie, K., Carriere, I., Berr, C., Artero, S., & Ancelin, M.L. (2010). Designing prevention programmes to reduce incidence of dementia: Prospective cohort study of modifiable risk factors. BMJ. 5(341):c3885.	Call for evidence	Outcomes – Not service delivery	NA
Naz, I. Mobilising Bodies, Mobilising Minds: Action research supporting Black Asian and Minority Ethnic (BAME) groups to take part in sustainable physical activity. Workers' Educational Association, 2011. Available from: http://www.westmidlands.wea.org.uk/publications.	PHAC	Outcomes – Not service delivery	Yes – some useful insights on barriers for BME groups
http://www.westmidlands.wea.org.uk/publications Moving towards fitness (CRBH)	PHAC	Outcomes – Not service delivery	NA
http://www.westmidlands.wea.org.uk/publications Our health our action (trandrusti)	PHAC	Outcomes – Not service delivery	NA
http://www.westmidlands.wea.org.uk/stokehealth CHEST (ongoing till 2017)	PHAC	Outcomes – Not service delivery	NA
http://www.westmidlands.wea.org.uk/clhl CLHL (ongoing – pilot phase reported July 2013) https://dl.dropboxusercontent.com/u/31879621/CLHL%20External%20Evaluation%20Executive%20Summary%20V1%2009-04-2013.pdf	PHAC	Outcomes – Not service delivery	NA
Health effects of the London bicycle sharing system: health impact modelling study' James Woodcock et al. http://dx.doi.org/10.1136/bmj.g425	PHAC	Outcomes – Not service delivery	NA
Anderson, J. W., E. C. Konz, et al. (2001). "Long-term weight-loss maintenance: a meta-analysis of US studies." American Journal of Clinical Nutrition 74(5): 579-584.	Review 1 – list of full text studies	Outcomes – Not service delivery	NA
Amireault S, Godin G, Vezina-Im LA. Determinants of physical activity maintenance: a systematic review and meta-analyses. Health Psychology Review. 2013 Mar;7(1):55-91.	Review 1 – list of full text studies	Outcomes – Not service delivery	NA
Gourlan MJ, Trouilloud DO, Sarrazin PG. (2011) Interventions promoting physical activity among obese populations: a meta-analysis considering global effect, long-term maintenance, physical activity indicators and dose characteristics. Obesity Reviews 12(7) E633-E645.	Review 1 – list of full text studies	Outcomes – Not service delivery	NA
Fjeldsoe B, Neuhaus M, Winkler E, Eakin E. (2011). Systematic Review of Maintenance of Behaviour Change Following Physical Activity and Dietary Interventions Health Psychology 30:1;99-109.	Review 1 – list of full text studies	Outcomes – Not service delivery	NA

Study (n=16)	Where found	Reason for exclusion	Any relevant insights?
Murray J, Craigs CL, Hill KM, Honey S, House A. A systematic review of patient reported factors associated with uptake and completion of cardiovascular lifestyle behaviour change. BMC Cardiovascular Disorders. 2012 08 Dec;12(120).	Review 1 – list of full text studies	Outcomes – Not service delivery	NA
McLean, N., S. Griffin, et al. (2003). "Family involvement in weight control, weight maintenance and weight-loss interventions: a systematic review of randomised trials." International Journal of Obesity & Related Metabolic Disorders: Journal of the International Association for the Study of Obesity 27(9): 987-1005.	Review 1 – list of full text studies	Outcomes – Not service delivery	NA
Stralen, M. M. v., L. Lechner, et al. (2010). . "Determinants of awareness, initiation and maintenance of physical activity among the over-fifties: a Delphi study." Health Education Research 25 (2) 233-247	Review 1 – list of full text studies	Outcomes – Not service delivery	NA
Ecorys UK with Centre for Social Gerontology, University of Keele. Fit as a Fiddle: Final evaluation report. Age UK, 2013. Available from:. http://www.ageuk.org.uk/Documents/EN-GB/ID201168_Fit_As_A_Fiddle_Evaluation_Report_FINAL130313_FINAL.pdf?dtrk=true.	Ad hoc web search	Population – Age range (approx. 75% over 60)	Yes – although not the right age range, the service delivery information did have insights for developing age-specific services and also some insights on targeting men

Appendix 3: PHAC studies submitted after search dates

The following studies were submitted by PHAC members after the end of the search period (post 21st February 2014). They could not be considered for inclusion in the review due to time constraints but are presented here for interested readers.

Study reference	Date submitted by PHAC	Type of programme
Evaluation of Living Streets' Fitter for Walking Project, 2012. http://www.apho.org.uk/resource/item.aspx?RID=116135	2nd May 2014	The Fitter for Walking project was a community based project delivered by Living Streets in conjunction with Local Authorities, Community Groups and residents to promote walking by making improvements to the environment.
Hunt K, Wyle S, Gray C, et al. A gender-sensitised weight loss and healthy living programme for overweight and obese men delivered by Scottish Premier League football clubs (FFIT): a pragmatic randomised controlled trial. Lancet, 2014; 383: 1211-21.	9th April 2014	A weight loss programme delivered by community coaching staff to 747 male football fans aged 35-65.

Appendix 4: Individual programmes within the evaluations of multiple programme

Bower et al (2003)			
Individual programmes (n=8)	**Activities**	**Target population**	**Main setting for delivery**
Hull and East Riding NHS Trust	Resource pack; training pack; training courses on use of the training pack	Members of the public, employed people and people approaching or thinking about retirement	Community
North Nottinghamshire Health Authority, later Ashfield PCT	Four-day training course on health, financial, benefits, social interaction, etc.	People working for local NHS and local authority agencies; the business sector, concentrating on the main industries in the area; and unemployed people in the mid-life age group	Workplace and community
Agewell, at Age Concern Sandwell	Health checks in the workplace; Physical exercise programme in the workplace; Resource pack; Leisure pass programme	Employees of small and medium sized businesses in the area	Workplace and community
East Devon PCT and located within Council of Voluntary Service	Health checks and advice to community residents and farmers	Three groups: employees of small businesses; farmers; community residents	Community – rural
Osteoporosis Dorset	Health checks to women aged 56–65 in three GP practices; Lifestyle workshops; Health fair	Women aged 56-65 registered with GP practices	Primary care
Age Concern Hackney	Health checks for community residents; Individual health plans; Physical exercise as part of individual health plans	People aged 50–65 living in the area, with a specific focus on unemployed women and women who had experienced mental health difficulties	Community
Southwark Active – Guy's and St Thomas' Acute Trust	Establishment and development of website IT training for community residents aged 50–65; Promotion of physical and social activities	People aged 50-65, with a more targeted approach for BME and unemployed people	Community
Beth Johnson Foundation – North Staffordshire	Understand health beliefs of target population; Develop community-based advisory service; Training of peer advisers	Local people aged 50-65 living within 4 areas of Staffordshire	Community

Ryan (2010)			
Individual programmes (n=32)	**Activities**	**Target population**	**Main setting for delivery**
Great Life, Essex	Lifestyle advice in group seminars (including healthy eating, physical activity, stress management, sleep).	Patients with long term medical conditions (including diabetes, obesity, and COPD)	Community
10% Club, Plymouth	Free 10 week healthy lifestyle programme with an emphasis on losing 10% body weight by the end of the programme	Low SES adults with a BMI of 30-35	Community
Active for Health, Coventry	12 week GP exercise referral programme, individualised training plan is put together and small charge to use local facilities.	Over 16s referred by GPs	Community
Active Health Scheme, Lancaster and Morecombe	A personalised exercise programme	Over 16s referred by GPs (most were obese)	Community
Apnee Sehat West Midlands	Healthy lifestyle seminars, health screening at religious festivals, sign posting to physical activity opportunities, culturally appropriate health promotion activities	South Asian Communities	Community
Cook and Eat Sessions Surrey	Cookery sessions	People in disadvantaged groups (including adults with learning disabilities, low SES).	Community
Diabetes Community Champions, Diabetes UK, London	Community champions are trained to provide education sessions about diabetes – risk factors and prevention as well as awareness raising about the condition.	People from BME communities	Community
Drivers Health, Nuneaton and Bedworth	Healthy lifestyle advice, signposting to use health services, advice on healthy meals in workplace cafes, and workplace health days	People who drive for a living – taxi drivers, bus and delivery van drivers in disadvantaged areas	Community
Early Identification Project, Surrey Diabetes UK	Risk assessment sessions and lifestyle information, with a focus on BME groups. Also publicity and information sent to all GPs and pharmacies during the same time period	People visiting mosques, community venues and pharmacies and other busy sites such as high streets	Community
Fit Fans, Hull	12 week weight management programme. Participants take part in healthy lifestyle workshops followed by supervised physical activity that increases in intensity and can be replicated at home	Men aged 40-65 years in deprived areas who want to lose weight and improve fitness	Community
Fit for Fun, Redbridge	Provides 20 weeks of a selected physical activity to community groups for example chair based exercise ,	Adults who are sedentary/hard to reach	Community

Ryan (2010)			
Individual programmes (n=32)	**Activities**	**Target population**	**Main setting for delivery**
	Bhangra dancing, aerobics, tai chi etc		
Food Net, Birmingham	5 week cook and taste programme delivered by locally recruited Food Health Advisors in community venues. Emphasis on healthy, tasty and affordable meals	Areas with high indices of deprivation	Community
Go4Life, Essex	A healthy lifestyle course that focuses on health eating, increasing physical activity, emotional wellbeing and barriers to healthy lifestyles	Adults aged 19+ who want to find out about how to have a healthier lifestyle	Community
Healthy Eating on a Budget, Wirral	Healthy eating programme covering balanced diet and key healthy eating messages also includes cooking and eating healthy recipes	People living in a health action area – especially most deprived wards	Community
Healthy Hearts, Nottinghamshire	Used arts, dance and creative activities to get across key healthy lifestyle messages	Adults with learning disabilities	Community
Healthy Weight, Brighton and Hove	Provides a 12 week group programme 'Shape Up' about key nutrition issues including reading food labels and 'count your portions' to ensure a balanced diet. Also take part in gentle exercise and encouraged to raise levels of physical activity. People can receive 1-1 support for up to six months	Adults with a BMI of 26-40	Community
Keep Well and Well North, Scotland	Health check, combined with appropriate health/social intervention including brief alcohol intervention	Adults aged 45-65 in the 15% most deprived communities including rural	Community
Lighten Up, South Birmingham	Call centre referral to a 12 week weight loss programme	People with a BMI over 30 in areas of deprivation	Community
Measure Up Roadshow Diabetes UK	A mobile unit providing risk assessment and general healthy lifestyle information about how to prevent type 2 diabetes	General public especially those at risk and undiagnosed, with a specific focus on BME groups	Community
Men's Health, Nuneaton and Bedworth	Health check, lifestyle information and advice. Referral and signposting to other services as appropriate	Men aged 50-74 in places where they meet such as pubs and social clubs, workplaces and job centres	Community
One Body, One Life, Coventry	10 week programme focusing on healthy eating and physical activity running in schools and community settings	Families interested in a healthy lifestyle , people with learning disabilities and their carers, over 55s	Community
Plants to Plates, Wirral	An allotment project focussed on growing and eating seasonal and healthy fresh produce	Adults with depression, mental health problems and those wanting to increase	Community

Ryan (2010)			
Individual programmes (n=32)	**Activities**	**Target population**	**Main setting for delivery**
		physical activity levels	
SACHE Campaign – Diabetes, London	Pilot project undertaken using Bollywood style DVD within an education and awareness raising sessions about diabetes, risk factors, prevention and signposting to services	South Asian community aged over 25 years	Community
Saheli Women's Group and Saheli Adventure Group, Birmingham	A women only gym and fitness centre, which encourages and supports women to become fitness instructors	Asian women and girls	Community
Seek Diabetes Awareness Charity, East and West Midlands	Diabetes screening sessions, with onward referral to GPs if appropriate and information about prevention and healthy lifestyles	BME groups, especially South Asian	Community
Shapes, Dudley	Twice weekly programme of exercise and nutrition information. Sets a 5% weight loss target	People who have completed a commercial weight loss programme and brought their BMI to below 30	Community
Slimmers' Kitchen, Dudley	12 week cookery sessions, walks, with a focus on 5% weight loss	People living in 40% most deprived areas and with a BMI over 30 (or 27.5 for people of Asian origin)	Community
Well London Project Be Well, Be Creative	Cultural activities such as dance and drama which provide an alternative to sport and promote a sense of community and mental well-being	Residents in 11% most deprived areas of London	Community
Well London Project, Buywell Project	This project aims to increase the supply of healthy eating options through work with local food retailers, and building infrastructure where required through community cafes, food co-ops and similar	Residents in 11% most deprived areas of London	Community
Well London Project Eat Well Project	This project aims to increase the take-up of healthy choices and bring people together to celebrate food	Residents in 11% most deprived areas of London	Community
Weight Busters, Nuneaton and Bedworth	Aims to provide an affordable alternative to commercial weight loss programmes. Sets a 5% weight loss target. Trains local volunteers to run classes	People with BMI over 30 and low SES	Community
Weigh of Life, Wirral	9 week healthy eating and healthy lifestyle project incorporating a healthy walk	People aged over 16 with a BMI of 25-35 and living in deprived areas	Community

Taylor (2011)			
Individual programmes (n=24)	**Activities**	**Target population**	**Main setting for delivery**
10% Club (Plymouth)	Free 10 week healthy lifestyle programme with an emphasis on losing 10% be the end of the programme	Low SES adults with a BMI 30-35 kg/m2	Community
Apnee Sehat (Coventry)	Healthy lifestyle seminars, health screening at religious festivals, sign posting to physical activity opportunities, culturally appropriate health promotion activities	South Asian communities	Community – religious festivals
CASHA 50 plus (London)	Diabetes awareness raising activities, diabetes risk screening, improve diet, exercise and healthcare access, one-to-one drop in advice	Over 50s Latin American community and their dependants	Community
Choosing the Chance to Change (Westminster)	8 week education programme on diet and exercise, exercise sessions, supermarket visits, and goal setting	Adults with learning disabilities who are overweight/obese	Community
Cromwell House weight clinic (Manchester)	Self-referral to weekly group discussion sessions, with a focus on healthy eating	Adults with severe mental illness who were concerned about their weight	Community – mental health service
Diabetes UK/NHS Surrey Early Identification project	Diabetes screening, lifestyle advice, GP referral as needed	Ethnic minority/faith group	Community – Mosque
Fit for life (Devon)	Tailored programme of weekly exercise, exercise DVD, and healthy living calendar	Adults with learning disabilities with low levels of physical activity	Community
Happy Hearts (Nottingham)	Health check, goal-setting, signposting to preventative services,	Low SES adults aged 40-74 and registered with a GP, referral to GP is needed	Primary care and community
Keep Well (Scotland)	Health check, combined with appropriate health/social intervention including brief alcohol intervention	Low SES adults aged 45-64 and registered with a GP	Primary care
Keep Well in Prisons (Scotland)	Cardiovascular screening, appropriate health/social intervention, follow-up as needed	Prisoners age 35+	Prison
Khsuh Dil (Edinburgh)	Screening for risk factors, one-to-one nutritional support, cookery and exercise classes	South Asian adults	Community
Keep Well Gypsy & Travellers (Lothian)	Cardiovascular screening, appropriate health/social intervention, follow-up as needed	Travellers aged 35+ living on authorised and unauthorised sites	Community

Taylor (2011)			
Individual programmes (n=24)	**Activities**	**Target population**	**Main setting for delivery**
Keep Well Gypsy & Travellers (Lanarkshire)	Cardiovascular screening, appropriate health/social intervention, follow-up as needed	Travellers aged 35-64 living on authorised sites	Community
Learning disability diabetes prevention group (Sandwell)	Fortnightly group education and interactive sessions including food preparation	Adults with learning disabilities who have impaired glucose regulation or diabetes	Community
Lighten Up (S Birmingham)	Call centre referral to a 12 week weight loss programme	Low SES adults with BMI >=30 kg/m2	Primary care funded use of local weight management services
NHS Health Check North East Essex: Colchester Mosque	NHS health check	South Asian men primarily aged 40+	Community – Mosque
NHS Health Check N E Essex: Jobcentre Plus	NHS health check, referral to GP is needed, free fruit and vegetables, some free leisure memberships	Registered job seeker's allowance claimants	Job centre
NHS Health Check N E Essex: Temporary accommodation	Cardiovascular risk assessment, £10 leisure voucher, bag of fruit and vegetables	Adults aged 40+ living in temporary accommodation	Temporary accommodation
New life, New you (Middlesbrough)	Social marketing, diabetes assessment, and 10 week exercise programme for specific high risk groups, activities vouchers for lower risk groups, and GP referral for very high risk	Low SES adults aged 45-65	Community
Seek Diabetes (E Midlands)	Health screening, referral to GP is needed	South Asian adults	Community – 'events'
Slimmer's Kitchen (Dudley)	Adaptation of 12 weeks Slimmer's kitchen model with a foundation course in healthy eating, and a 5% weight loss goal	Adults with mild to moderate learning disabilities who were overweight or obese and low SES	Community
Slimmer's Kitchen (Dudley)	12 week cookery sessions, walks, with a focus on 5% weight loss	Overweight adults (BMI stratified by co-morbidities and ethnicity) aged 18+ and low SES	Community
Weight Busters (Nuneaton)	Weekly weight management programme, with 5% weight loss target	Low SES overweight adults (BMI >30)	Community
Well-being Support	Nurse led consultations in secondary care (4-6	Adults with severe mental illness	Secondary care

Taylor (2011)			
Individual programmes (n=24)	**Activities**	**Target population**	**Main setting for delivery**
Programme (national pilot, local implementation Kent)	consultations), health and lifestyle check, referral to GP or specialist as needed		

Appendix 5: Insights on service delivery from excluded studies

Ecorys UK (2013)	
Type of programme	Age UK's fit as a fiddle programme. This was a national programme delivered to people aged over 50 in England using a £15.1 grant from the Big Lottery Fund's wellbeing programme. A range of activities were delivered to improve healthy eating, levels of physical activity and mental wellbeing through locally led projects. A cascade training model was used to help volunteers to deliver activities with specific target groups including BME and faith communities, and older men. Overall, fit as a fiddle supported 375,392 older people.
General service delivery insights	• Local advertising (especially local newspapers), existing partnerships and word of mouth were important for recruitment • Offering sessions in evenings and weekends was important for working people • To attract men, the service has to be men-specific/men only ○ Men enjoyed services such as football, cycling, Wii games, Nordic walking • To attract BME groups and maintain engagement a good peer mentor was found to be important • There were a lot of issues with the cascade training model with some project co-ordinators feeling that they did not have clear guidelines on things such as managing volunteers • There was a difficulty in collecting data to monitor the service, with some co-ordinators feeling that the administration burden was too resource intensive.
Attracting 'younger older people' aged 50-59	• Day sessions were not accessible for working people • Younger older people did not associate themselves with Age UK • The stakeholders did not always feel that the programme was aimed at under 60s (despite it being aimed at 50+) • People in their 50s did not like going to over 50s sessions • By saying 50+ the service tended to reach 60-65+.
Learnings that may be useful for mid-life people	• If a general mid-life service aims to reach 40+ for the general population, it could be that it inevitably becomes a 50+ service • Being mid-life may not be a label many people wish to associate themselves with • Defining a service by age may mean that disadvantaged people aged 18-39 will be excluded, and therefore could represent an inequality.

Naz (2011)	
Programme details	The Worker's Education Association (WEA) Community Research for Better Health (CRBH) project funded by the Big Lottery. The aim of the programme was to work with local BME communities to help identify the barriers to physical activity faced by this community. This is phase 1 of a 3-phase project.
Intervention	There was no intervention. This was a barriers study which used semi-structured questions to elicit BME community members' views on health and physical activity.
Age, setting and delivery	Target group: BME Age: 18+ Setting: Community in East midlands Delivery: Community researchers
Evaluation details	Thematic analysis.
Programme success	• The programme found that it was possible to illicit the views of BME groups to enable them to determine the main barriers to PA.
Key service delivery themes	• The delivery of PA to BME groups has to be culturally appropriate, which includes: ○ Gender-segregated PA programmes ○ Appropriate languages ○ Good role models/champions from within the community ○ Low cost programmes ○ Provision of child care for women.
Other insights	• Many of the barriers for BME groups do not differ too significantly to those faced by non-BME communities (e.g. cost, lack of motivation, childcare issues, local parks and facilities not being accessible) • However, within specific communities there was the notion of viewing exercise as a self-indulgent activity; as a result physical activity becomes a low priority for many people • Cultural barriers included the lack of gender-segregated physical activity programmes for men and women, lack of culturally competent choices, language barriers, lack of role models and lack of information in a suitable format.