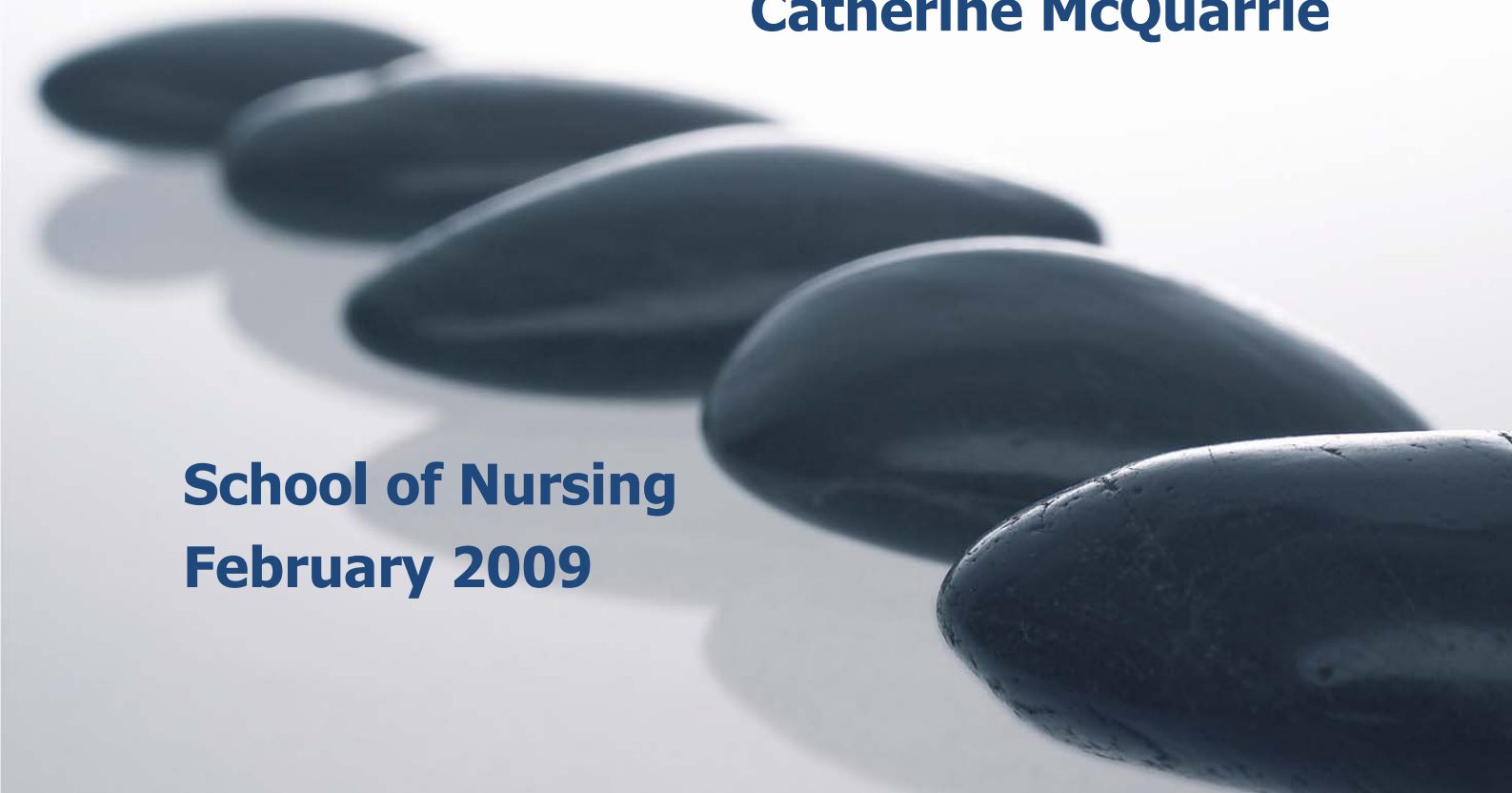**University of Salford**
A Greater Manchester University

A synthesis of grey literature around public health interventions and programmes

Nicholas R Hardiker

Maureen McGrath

Catherine McQuarrie

School of Nursing
February 2009

Contact:

Dr. Nicholas Hardiker

Senior Research Fellow, School of Nursing
Room MS 2.29, Mary Seacole Building
The University of Salford
Greater Manchester
M6 6PU
UK
Tel: +44 (0)161 295 7013
email: n.r.hardiker@salford.ac.uk

Project team

Nicholas Hardiker: Nick is a Senior Research Fellow at the University of Salford and Professor (adjunct) at the University of Colorado, Denver, USA. He established and currently leads a highly active and successful Information and Evidence research group. He has an interest in and is widely-recognised for his expertise in all aspects of health information management. He has been involved in a number of literature reviews, including (with MJG) an update of a Cochrane review of the impact of nursing record systems on patient outcomes and practitioner behaviour. In 2008 he successfully led (with HF and MMc) a project to facilitate a Joint Strategic Needs Assessment (JSNA) on behalf of Oldham PCT and the Borough of Oldham.

Nick acted as principal investigator for this review and was jointly responsible for searching, filtering, appraising and synthesising. Nick took editorial responsibility for physical activity, and overall.

Maureen McGrath: Maureen is a Lecturer in Adult Nursing at the University of Salford. Previously, she worked as a Health Visitor in Oldham and Sheffield and has been involved in a number of initiatives to improve the health outcomes of individuals and groups living in a variety of different communities. This has given her significant insight into some of the factors that impact on the success of these initiatives. At the University of Salford her teaching and learning responsibilities largely relate to public health, health inequalities and health needs assessment. Maureen was also part of the Oldham JSNA team.

For this review, Maureen was jointly responsible for searching, filtering, appraising and synthesising and took editorial responsibility for food and nutrition.

Catherine McQuarrie: Cath has been a Lecturer in Mental Health Nursing at the University of Salford since 2006. Prior to this, she was a lecturer/practitioner, working as a Clinical Nurse Specialist with the Manchester, Bolton, Salford and Trafford Substance Misuse Directorate. She has worked in the field of substance misuse (alcohol and drug services) since 1995 and completed an MSc in Drug Use and Addictions in 2003. She has a strong interest in promoting mental health and social inclusion.

Cath was jointly responsible in this review for searching, filtering, appraising and synthesising and took editorial responsibility for mental health and well being.

Advisory team

Lindsey Dugdill: Lindsey is Reader in Exercise and Health at the University of Salford and acted as critical reader for this review.

Helen Franks: Helen is Senior Lecturer at the University of Salford and acted as critical reader for this review.

Maria J Grant: Maria is Research Fellow (Information) at the University of Salford. Maria acted as consultant to this review, providing advice on searching, appraising and synthesising findings.

Alan Higgins: Alan is Director of Public Health for Oldham and acted as

external stakeholder and critical reader for this review.

The project team would like to thank members of the NHS Northwest BIG Lottery Research and Evaluation Overview Group for their valuable contribution.

Contents

Executive summary

Physical activity, mental health and well being, and food and nutrition are areas of health that have recognised links to circulatory diseases and some cancers. People living in poorer socio-economic circumstances are more likely to contract these diseases. Effective interventions to promote mental health and well being, to improve food and nutrition and to increase engagement in physical activity may help to improve the health of the population of the UK and reduce health inequalities.

The aim of this systematic and comprehensive review of available grey literature was to identify: 1) the nature of interventions and strategies which can support people and communities to make positive changes; and 2) the factors that enable that change to be sustained.

A total of 36 items were included in the review, distributed fairly evenly across the three areas and covering a broad range of interventions; these were aimed at engaging a variety of different individuals, groups and communities.

The different interventions used a variety of approaches to engage people and communities in changing their behaviour and improving their sense of well being, including involvement in practical activities, provision of advice and information to increase knowledge and understanding, improvement of access to resources, and provision of support and encouragement to make changes.

A variety of different measures were used and most evaluations collected both quantitative and qualitative information.

However, the included items did not generally identify an underpinning theoretical framework for the interventions; nor did they give any indication of who had been involved in planning the interventions, or their evaluations. Many of the interventions were relatively short term (6 months or less) and generally evaluations took place either during or at the end of the intervention, with no further follow up beyond that time. The evaluations of longer term interventions tended not to relate outcomes to stage of implementation; nor in general did they consider process outcomes.

The included items demonstrated synergy across the three areas in relation to a) improvements in well being, and b) barriers to and promoters of success.

Most of the interventions in all three areas, irrespective of time scale, demonstrated a positive impact on general sense of well being and opportunities for social interaction. This may be important as a precursor to change, or intention to change, for aspects of health behaviour.

One of the key barriers to success was time - a lack of time to participate, the timing of interventions, and their timescale. Other common barriers were: lack of awareness (related to lack of publicity for the intervention); lack of support or sustained commitment by practitioners and lack of support from families or communities for individuals attempting to make a change.

Common factors identified as promoting the success of an intervention included: working in partnership; the potential for mainstreaming an intervention into existing services; the use of practical activities in addition to awareness raising and support; flexibility and an ability to tailor activities to need and the use of physiological measures (this was appreciated by participants as concrete evidence of their need to change). Facilitation by individuals drawn from the local community was seen as an important contributing factor for the success and sustainability of many interventions, particularly those oriented towards physical activity and food and nutrition. However participants and organisers of some of the mental health and well being programmes reported that the use of facilitators external to the community and the service might be an important element in promoting social inclusion.

Recommendations arising from the review include:

- Different sections of the population should be targeted at the same time, perhaps using social marketing techniques

- Larger scale, longer term interventions and programmes should be developed; planning should also include the approach to evaluation and should involve all stakeholders, including the 'target' population groups themselves

- Outcomes, including process outcomes, must relate both to the timescale of an intervention and to the stage of implementation

- A range of methods should be used to collect qualitative and quantitative outcome data

- Given the complexity of behaviour change and well being, interventions and their evaluations should be flexible, responding to changes in needs and context

- Consideration should be given to how some of the structural barriers to behaviour change should be addressed.

Background

This study, a response to an invitation to tender issued by NHS Northwest, involved a review of 'grey literature' that relates to the factors facilitating and inhibiting effective interventions in three areas: the promotion of mental health and well being; the improvement of food and nutrition; and increased engagement in physical activity. These three areas are closely-related and inevitably impact on each other. For example, mental well being impacts on the ability of individuals to take part in physical activity and to make healthier choices in relation to food and nutrition (Department of Health, 2004); conversely, increases in levels of physical activity and in fruit and vegetable consumption appear to impact positively on some dimensions of mental well being (Blank et al, 2007; Department of Health, 2007; National Institute for Health and Clinical Excellence, 2008). Effective interventions and programmes are equally likely to have a multi-dimensional aspect.

In recent years there has been a strong political drive to promote health in relation to the three areas (Department of Health, 1999, 1999a, 2004, 2005, 2005a, 2007). The focus of this drive has been to support individuals and communities to be able to choose health; and there has been some acknowledgement that choices are made within a cultural and structural context which can serve to support or inhibit their sustainability. There have been a number of high profile campaigns which focus on behaviour change. Examples include *5 A DAY* (Department of Health 2004a), aimed at promoting the benefits of eating fruit and vegetables, particularly to communities and individuals with low consumption patterns; *Small change big difference* (Department of Health, 2006) which addressed changes in lifestyle related to physical activity, diet and mental health and well being, particularly for populations of people from poorer socio-economic groups; *Change4life* (Department of Health, 2008) which is aimed at preventing people from becoming overweight by encouraging them to eat better and move more.

While these policies and campaigns appear to have benefited some communities in relation to health outcomes, there is evidence that the gap in life expectancy between the country as a whole and the Spearhead Group areas is increasing (Department of Health 2006a; Department of Health 2007). The Spearhead Group comprises 70 Local Authorities and 88 Primary Care Trusts (PCTs) considered by the Government to have a relatively greater scale of health inequalities. The main causes of deaths contributing to this gap in life expectancy are circulatory diseases, cancers and respiratory diseases. Poor mental health, unhealthy diets and low levels of physical activity are linked to circulatory diseases (DH, 2000) and healthy diets and physical activity are thought to be protective factors against cancer (World Cancer Research Fund and American Institute for Cancer Research, 2007). There is a clear need to identify interventions and strategies that can support people and communities to make positive changes in relation to diet, physical activity and mental health and well being and more importantly to identify what factors then enable that change to be

sustained and to become an integral part of health behaviour. The adoption of quantifiable and sustainable interventions could play an important role in addressing health inequalities.

The National Institute for Health and Clinical Excellence (NICE) have published a number of documents related to public health interventions in the three areas under consideration and also in relation to behaviour change in general (Tilford et al. 1997; Roe et al. 1997a; NICE, 2006; NICE 2007; NICE 2008; NICE 2008a). Some of the common ideas that emerge from these documents are the need to plan and implement interventions in partnership with different communities and to build on the skills and resources that already exist within them, to personalise interventions to take account of individual or community characteristics and to provide ongoing encouragement and support. The need to evaluate all behaviour change interventions is also stressed. It is perhaps this latter recommendation that has suffered from a lack of systematic and rigorous implementation, particularly in relation to the synthesis of intelligence from the many smaller scale local interventions specifically aimed at addressing physical activity, food and nutrition and mental well being either individually or in combination. It has also suffered from the lack of a long-term view i.e. existing 'non-grey' literature provides little evidence about the success of interventions and programmes over time. To complicate things further, as Mentality (2003) pointed out in the 'Making it Effective' briefing paper, 'not all interventions work for all individuals in all contexts; equally most interventions have been

helpful to someone'. In the briefing paper, timing is seen as a crucial success factor and the success or failure of previous interventions and programmes must be taken into account. Mentality (2003) highlights the need to identify 'principles' of 'successful programmes in specific settings'.

This review provided an opportunity to locate, analyse and synthesise evidence that covers many of these factors, in order to provide additional context to the existing, more focused (and therefore perhaps more constrained) evidence.

The aim was to identify and explore factors that influence the success of relevant interventions and to facilitate an understanding of how intervention strategies can be combined together in different ways to support sustainability of behaviour change in different individuals and communities.

Method

Approach

A flexible approach was taken – one that could be adapted readily to meet the needs of the key stakeholders. This was reinforced by an early meeting with the three policy leads and other key members of the BIG Lottery Research and Evaluation Overview Group which served to guide particularly the identification of metrics, measures, priority areas and impact factors.

In order to focus the search for sources, the project team had intended to employ, as an initial organising framework, the areas identified in 'Making it Effective: a guide to evidence based mental health promotion' (Mentality 2003): early years: children and families; schools; young people outside schools; primary care; older people; people with mental health problems; black and minority ethnic groups; the workplace; communities and neighbourhoods and older people. This framework was used successfully by Mentality (2003) to categorise evidence-based priorities in aspects of health promotion. However, within this project, the framework had limited utility as the emergent themes were to a large extent self-evident.

Sources and searches

The breadth of the search (and to a lesser extent the depth of analysis) was shaped by resources and timescale. The principal literature sources considered in this project included:

- Professional (non-academic) journals and conference proceedings (partly available via bibliographic databases i.e. CINAHL and MEDLINE)

- Databases of grey literature i.e. Health Management Information Consortium (HMIC) and System for Information on Grey Literature in Europe (SIGLE)

- Gateway services i.e. INTUTE

- Websites of key organisations and government departments i.e. local PCTs, Local Authorities, Department of Health, NICE, Department for Work and Pensions, the Office of National Statistics and the Social Exclusion Unit

- Existing networks of the project team (and of the wider Faculty of Health and Social Care at the University of Salford).

Initial searches in all cases were confined to topics such as 'Physical Activity', 'Mental Health and Well Being', and 'Food and Nutrition' in the context of health promotion/public health interventions in the UK.

Other potential bibliographic sources e.g. Social Care Online, British Nursing Index, etc. were not consulted due to resource and time constraints. However, given the nature of included items, in turn reflecting the value of personal contacts as sources (see Results and Discussion), this is unlikely to have affected the overall findings.

Criteria for inclusion and exclusion

Literature was deemed eligible if it included both: an identifiable

intervention or programme within one or more of the three topic areas; and a description of an evaluation (formal or informal) relating to the intervention or programme.

Each item from the initial search was reviewed independently by two members of the project team. Items were selected for further analysis according to the following criteria:

- The item represented a real resource, paper or report (rather than a gateway or portal)

- It provided a description of a tangible intervention or programme

- It presented the results of a completed evaluation of outcomes

- The outcomes represent an objective or subjective change in behaviour or an improvement in well being for individuals or groups

- The intervention or programme was conducted in the UK

- The intervention or programme fell within the timeframe 1999-2009

- The intervention or programme had an explicit aim, purpose or goal.

It was anticipated that selected items would include some description of behaviour change (unless it concerned well being or aspects of mental health).

Items were excluded if:

- Outcomes were based solely on physiological measures

- Outcomes were based solely on the deployment or utilisation of resources.

It was considered unlikely that evaluations that looked solely at physiological or resource outcomes would provide sufficient insight into the complexities of behaviour change.

Disagreements over which items to include were resolved through face-to-face negotiation.

Agreed included items were categorised according to the three policy areas and subjected to further review. Individual members of the project team took editorial responsibility for each of the three areas.

Analysis

In considering the literature further, reviewers focused on cultural, systemic, organisational and individual facilitating and inhibiting factors, as required by the study, while also considering the motivation behind the intervention or programme, and its sustainability.

To this end items were analysed according to the following categories:

- Area of work

- Intervention or programme

  - Type

  - Aim (optional)

  - Who carried it out?

  - Who funded it?

- o Who participated?
- o Contextual factors
- o Intended metrics
- Evaluation
  - o Type of evaluation
  - o Timescale
  - o Who carried it out?
  - o Who funded it?
  - o Findings
- Identified barriers to change
- Identified promoters of change.

Emergent themes that were common across the three policy areas were identified through face-to-face meetings.

It was hoped that for a specific intervention or programme it might be possible to compare more objective evidence such as formal evaluations with more subjective evidence such as self reports in order to look in a broader way at information from a range of sources. For example, the 'objective' evidence from an evaluation of a particular programme might be considered alongside self reports from a service user evaluation of that same programme. In practice this proved unfruitful.

Stakeholder/User Involvement

The project team assumed that wider stakeholder and service user views had been incorporated adequately through preparatory meetings prior to the inception of the project. The team are aware of good involvement practice (INVOLVE 2007) and did consider, as part of this review, opportunities for user involvement. However, the nature of the work to be done, the time of year and the short time-frame would have made further meaningful public involvement difficult. From an implementation point-of-view, it was planned that the critical readers and the steering group would provide ongoing guidance. To this end, towards the end of the project, the steering group were invited to comment on an interim report and a final draft report was sent to the critical readers to review.

Ethics and Governance

The study did not involve human or animal subjects; nor did it involve personal identifying data or involve NHS staff or premises in any research activity. Thus it was not necessary to seek formal ethical approval. The project team committed to following local governance procedures as necessary.

Results

Identifying sources through existing networks

A call for participation (see Appendix A) was sent in mid-January 2009 to policy leads working in Food and Nutrition, Mental Health and Physical Activity, and representatives from Groundwork, the Healthy Living Partnership, NICE, the Strategic Health Authority (NHS North West) and Oldham PCT (NHS Oldham).

The call for participation yielded a response from 18 individuals (although more people were involved in disseminating the information - it is clear that the call had been forwarded on to individuals and networks, via mailing lists, newsletters, updates, etc.). 51 reports or pointers to other sources of information were returned. 21 of these items were selected for further analysis.

Several Primary Care Trusts (PCTs) were contacted directly, (using existing contacts or through health improvement personnel) using the call for participation (see Appendix A): Bolton PCT, Stockport PCT, Blackburn and Darwen PCT, East Cheshire PCT, Salford PCT and NHS Cumbria. East Cheshire and Stockport provided examples of local initiatives and 2 of these were selected for inclusion in the project.

Manual searches

Hand searches of the websites for DEFRA, Office of National Statistics, Department of Health and NICE resulted in the identification of 6 reports that met the search criteria. None of these were selected for further analysis.

The Social Exclusion Unit website was also searched which identified work undertaken by Pennine Care Trust in relation to volunteer training; this evaluation was then obtained from the Trust itself. None of the studies within the research database of the Greater Manchester West NHS Foundation Trust website matched the inclusion criteria.

A sample of electronic journals that are known to focus on behaviour change (Health Education Journal, Health Education Research and Health Education and Behaviour) were manually searched for relevant articles published 2005 - 2009. Six articles were selected for further analysis and three included in the project.

Bibliographic searches

A search of SIGLE from 1999 (to 2005 when indexing ended) on English language articles using the search term 'public health' returned 256 items. Of these, only 20 met the search criteria. 4 were selected for further analysis. However, none of these were available to the project within available resources and timeframe.

A search of MEDLINE from 1999 to 2009 on English language articles using search terms (MEDLINE subject headings) corresponding to the three topic areas, combined with public health practice or health promotion, and based in Great Britain, returned 82 items. 12 were selected for further analysis, 10 of which were available to the project. See Appendix B for the MEDLINE search strategy.

A similar search of CINAHL from 1999 to 2009 on English language articles

using search terms (CINAHL headings) corresponding to the three topic areas, combined with public health or health promotion, and based in the United Kingdom, returned 170 items. 18 were selected for further analysis, 14 of which were available to the project. See Appendix B for the CINAHL search strategy.

Searches were performed on the HMIC database from 1999-2009 using a variety of search strategies as given in *Table 1*. 30 items were selected for further analysis.

Table 1: Searches and results for HMIC

Search	Results
Health promotion and mental health	10
Health promotion and (food and nutrition)	6
Health promotion and physical activity	21
Evaluation and health promotion and mental health	10
Evaluation and (food and nutrition)	3
Evaluation and physical activity	2
Physical activity and (behaviour or behaviour modification or health behaviour)	7
Health promotion and evaluation	15
Health promotion and social inclusion	3

Searches were also performed on the INTUTE database using a range of search terms as given in *Table 2*. The majority of items were not of UK origin and were therefore excluded. Others did not fall within the 1999-2009 timeframe or did not have an identified evaluated intervention. 37 items were selected for further analysis.

Table 2: Searches and results for the INTUTE database

Search	Results
Mental Health and well being	33
Health Promotion (evaluated interventions)	4
Interventions in mental health promotion	1
Evaluated interventions mental health and well being	0
Diet and lifestyle	50
Diet and exercise	81
Physical Activity	106
Health promotion interventions	16
Social inclusion	170

Physical activity

A total of 29 items were considered to fall primarily under the topic area 'Physical Activity'. Of these, 16 items were not considered to represent grey literature (for example, they may have been published as scientific articles in academic journals); these items were categorized as potential background material.

Thus 13 items were included as primary (i.e. non-background) material. 4 items described national evaluations of local schemes; the remaining 9 items described local schemes. A total of 11 distinct interventions or programmes, or evaluations of those interventions or programmes were covered:

- A tailored exercise referral programme – North London (Dinan et al., 2006)

- Learning Together – Oldham* (Khan, 2005)

- Get Active, Get Alive – Gorton* (McAllister and Chourbaji, 2006)

- Green Gym® – Sonning Common, Portslade and national* (Oxford Brookes University, 2007; Oxford Brookes University, undated)

- Local Exercise Action Pilots (LEAP) – Wigan and national* (Carnegie Research Institute, 2007; Dugdill and Muirhead, 2007)

- MEND – Fylde coast* (Y active, 2008: Y active, 2008a)

- Physical Activity Brief Intervention – Knowsley* (Creative Research, 2007)

- Walking the way to Health Initiative (WHI) – national* (Dawson et al., 2006; The Countryside Agency, 2005)

- Well@Work – national (Paton, 2008)

- Y Active – Fylde coast* (Y active, 2008: Y active, 2008a)

- Young@Heart – Nottinghamshire (Stacey and Stickley, 2008).

Of the 13 included items, 10 came from sources identified through participant networks contacted by the research team (indicated by * above), 2 came via CINAHL and 1 came via HMIC.

Interventions

The range of interventions described in the included studies covered dedicated physical activity or education sessions, tailored exercise referral, a dance project, motivational interviewing/opportunistic advice, peer mentoring, health walks, and training for physical activity workers.

The most common stated aim for interventions was to increase physical activity levels in a specific population e.g. sedentary adults and children, older people, those living in deprived communities, those at risk of ill health.

Other aims varied according to the particular intervention being described:

- To improve balance and strength training (i.e. falls prevention)

- To improve health, self confidence, self esteem, well being and behaviour

- To encourage practitioners to offer advice or information and to increase their confidence in promoting physical activity

- To change knowledge skills and attitudes in relation to physical activity

- To provide physical activity opportunities

- To raise awareness of the social, physical and personal benefits of physical activity

- To provide opportunities to learn new skills and gain qualifications.

Interventions were carried out by a range of people including general practitioners, practice nurses, nurse practitioners, exercise instructors, community workers, dance leaders and volunteers. Funding for interventions came from a range of sources including local authorities, charities, Health Action Zones, Primary Care Trusts, the Department of Health and other government agencies.

A broad variety of people participated in the interventions described in the included studies including men, women and young people, of various ages and from various social backgrounds. Older women, who were described as white British, featured significantly in most interventions or programmes.

Many of the interventions were community-based and provided social opportunities along with physical activity opportunities. The intention was generally for sustained change.

A number of metrics were proposed to measure the impact of the intervention including:

- Number, reason and origin of referrals

- Self-reported changes in physical activity levels or other specific benefits e.g. sleeping better

- Changes in knowledge, skills and attitudes to physical activity (for patients, practitioners and the community as a whole)

- Physical health measures e.g. BP, Timed Up and Go

- Effect on mood and other measures of well being e.g. SF36 questionnaire, changes in self-worth and sense of pleasure or fulfilment

- Cost

- Psychosocial measures e.g. friendships and social networks.

Evaluations

Evaluative data was most commonly captured via questionnaires administered to participants concurrently with the intervention (i.e. there was little or no long-term follow up and no groups for comparison or control). A range of other research

tools and techniques were also used including physiological measurement, monitoring forms, observation, interviews and group discussion.

In many cases the source of funding for the evaluation was not clear although it is assumed that evaluation costs formed part of overall intervention costs and were therefore derived from the same source. Likewise, in many cases it was not clear who carried out the evaluation, although in at least 7 of the included studies a Higher Education Institution was involved.

It was outside the scope of this review to make comparisons between interventions or programmes described in the available grey literature and related interventions or programmes in the available academic (i.e. 'non-grey') literature. However, two examples discovered opportunistically, show interesting similarities and differences.

1. With respect to health walks, the findings in both grey and academic sources were complementary although each source contained information that was not present in the other. For example, Ashley and Bartlett (2001) reported reasons for continuing and for not continuing with led walks. This information was not present in two of the grey sources (Dawson et al., 2006; The Countryside Agency, 2005).

2. With respect to exercise referral, both grey and academic sources reported only modest possible benefits. Dugdill et al. (2005) reported much lower adherence rates

(35-40%) than one of the grey sources (75%) (Dinan et al., 2006).

Findings

A tailored exercise referral programme described by Dinan et al. (2006) involved 126 women and 32 men, aged 75 years and over, and deemed borderline frail by their GP. It was a two-stage progressive group exercise programme that involved tailored balance and strength exercise sessions. It was delivered by Advanced Exercise Instructors, once weekly for 8 weeks in primary care (stage 1), progressing to chair-based exercise classes in leisure centre/community care setting (stage 2). Classes were designed to include supervised exercise, social opportunities and education; patients were encouraged to repeat the exercises on two more occasions per week at home. The main metric used was a pre- and post-Timed Up and Go (TUG) test i.e. the time to get up from a chair without arms, walk 3 metres, return to the chair and sit down. The authors reported the TUG test to be an effective falls predictor. For the practice-based classes, the mean TUG score was reduced, and in 23 out of 76 people for whom there was a TUG value, it was reported that the value was reduced to below the threshold for falls (but interestingly not yet 'within the normative range'). It was also reported that nearly half of those referred made the transition to the community-based programme.

The goal of the Learning Together project (Khan, 2005) was to engage excluded young boys in sport activities. A weekly 6-hour session was delivered for 12 weeks in a sports

centre setting. Practical sessions included rock climbing, canoeing, gym work, football, spinning (aerobics) and swimming/diving. Theoretical sessions were based around the Community Sports Leader Award. The goal was to provide opportunities to learn different skills (especially involving teamwork), to learn with and about people from different backgrounds and to gain a nationally recognised qualification (CSLA). A total of 17 boys aged 14-15, from 3 schools attended the project. Attendance varied, falling from 15 at the start to 5 at the end. It had been agreed with schools that in order to ensure attendance, learning mentors would also attend; this only happened for the first two sessions - thereafter, attendance dropped off. Participant opinion was gathered via ad hoc feedback throughout the course and via a final group discussion (with just 4 participants). Participants appeared to appreciate the opportunity to take part in new activities, preferring smaller group sizes. They enjoyed the practical sessions but were less keen on theoretical coaching sessions:

'It would seem that some of the young boys would have preferred all the sessions to be practical' (p.3)

Participants appeared to be aware of some of the health benefits of exercise e.g. feeling fitter and losing weight. They also mentioned the social aspect of participating. Two of the 4 participants reported that they had started doing physical activities outside the sessions and all 4 group discussion participants were now participating at the 'team gym', a supervised provision for young people. Long breaks between activities were not popular and a dependence on external coaches

meant that some activities had to be cancelled.

The aim of Get Alive, Get Active was to establish a network of physical activity opportunities including yoga, gentle women's exercise, gardening, etc. (McAllister and Chourbaji, 2006). Nearly 500 people took part in 10 activities over 6 months. Most of the 63 people who completed monitoring forms were local residents; the vast majority were women and around half were over 50 years old. While participants did report some physical health benefits, the perceived benefits to participants' mental health and social well being were reported as greater than the physical benefits. The authors of the report considered essential a) a dedicated co-ordinator and b) assistance with organising venues.

Green Gym® (Oxford Brookes University, 2007) comprised 52 projects; these varied in nature according to socio-economic factors and patterns of recruitment. In a national evaluation, 703 participants from 52 projects completed an introductory questionnaire. 194 participants completed both an introductory and continuation questionnaires. The most common motivators for participants, who were 97% white and (unusually) 60% male, were being outdoors and improving the environment. The least common motivators were losing weight and being with family or a partner. Participants heard about Green Gym® mainly via word of mouth, communications through health organisations or media, and health providers. On average, self-reported physical health status improved

significantly (with for some a positive change after only 3 months).

In local evaluations (Oxford Brookes University, undated) an additional motivating factor was keeping fit and motivators cited for continued participation were the social aspect of working with a group, increased awareness of conservation, and doing something worthwhile. Long term adherence in one local study was 72%. A second local study showed significant improvement in mental health in the first 3 months (e.g. decreased depression). In this second local study, adherence was only 48%. Interestingly, people given fitness tests during the research were significantly more likely to attend more frequently and adhere long term.

Local Exercise Action Pilots (LEAP) were implemented and evaluated in 10 sites across England and involved pilots for one or more physical activity intervention and using different intervention designs. (Carnegie Research Institute, 2007). Most participants in the pilots were described as white British, with more women than men and more older people. The national evaluation involved case studies and self-reports for a number of measures such a demographic profile, levels of physical activity (before, during and after interventions), participants' experience, key design characteristics, running costs and cost-effectiveness, and changes in awareness and physical activity level of the community as a whole. The authors of the report expressed concern over a potential self-selection bias and a potential over-reporting of level of physical activity. The majority of those who

completed the programme were already meeting recommended physical activity levels, although a general increase did occur. Interestingly there was a negative intervention effect for classes and group work. A range of design characteristics were suggested as being effective in engaging and facilitating an increase in physical activity levels, including:

- partnerships

- simple referral protocols with clear referral criteria

- staff that understand and meet participants' needs

- linking into other physical activity programmes (to provide pre-planned exit opportunities)

- training and education of staff.

A local implementation of LEAP built upon existing services, including a second exercise referral scheme (in addition to Dinan, 2005) and peer mentoring for older people (along with a variety of other interventions). According to an evaluation of the North West pilot which focused on people over 50 years old (Dugdill and Muirhead, 2007), most participants were female and were described as white British, and around half lived in areas of deprivation. Evaluation was based on focus groups and pre- and post- questionnaires (short form International Physical Activity Questionnaire). People found out about LEAP through friends, through the exercise referral scheme, through health professionals (women) and through newspapers (men). Consistent with the national evaluation, there were 'elevated' population levels of self

reported physical activity. However, while there was 'a possible intervention effect on physical activity levels' (NB there was no reported control group), social and mental benefits were seen to be just as important to participants as becoming physically more active.

MEND is described as a self-referral activity and education programme for children aged 7-13 (average age 10) who may have weight issues or suffer from poor health (Y active, 2008: Y active, 2008a). The goals were to increase physical activity levels, and to improve self confidence, self esteem and behaviour. Running over 10 weeks for 2 hours per week it involved an education session that was focused on sustained behaviour change. Child participants showed an overall reduction in body mass index (BMI) and waist circumference and an improved recovery heart rate after completing the scheme.

The goal of the Physical Activity Brief Intervention (Creative Research, 2007) was for General Practitioners (GPs) and practice nurses, either in follow-up or opportunistically, to deliver key messages about leading a more active life e.g. the benefits to health, small changes that make a difference, signposting to local activities, goal setting, agreeing participation in research. Participants were to be followed up (at 13 weeks). It was targeted at people over 40 years old who had been identified as being underactive. However, only 30 patients signed up (the expectation was 200-300) - the majority of participants were women aged over 60 years. From pre- and post- questionnaire (and from qualitative feedback from a

sample of practitioners), there was some change in attitude:

'most of our respondents…were more likely to feel that health benefits can be accrued from moderate levels of physical activity and they were somewhat more confident they knew how to do it' (p.23).

However, there was no self-reported change in behaviour (reasons included not enough time, being unwell or unfit, being too tired) and any increase in physical activity was thought to be due to factors outside the intervention. Reasons for the apparent lack of uptake were reported as a lack of time during

consultation and a relatively low priority for the intervention, the lack of a project champion and a possible pre-existing lack of motivation

The evaluation of the Walking the way to Health Initiative (WHI) examined, via questionnaires, changes to physical activity levels among people who attended health walks (defined as a purposeful brisk walk undertaken on a regular basis) (Dawson et al., 2006; The Countryside Agency, 2005). Most participants were female, white, well educated, affluent, young-old and retired. 85% had attended so-called 'led walks' before. In terms of sustainability, after 12 months 72% of participants reported that they had been on a led walk at least once a fortnight during previous 9 months; participants who maintained attendance reduced their overall physical activity less that those who stopped participating after month 3; and overall physical activity at 12 months was significantly associated with participation in led walks. 30% of

participants reported that any extra walking was mainly other led walks (rather than independent walking). Led walks were seen as providing opportunities for 'safe' walking - the factor that appeared to deter people from independent walking was having no one to walk with (around a third of participants were concerned with personal safety). The two most commonly cited benefits of the initiative were social contact and improved fitness and energy, followed by an increased sense of well being and/or confidence and improvements with joint problems and mobility. Most people felt that their existing health problems had improved and measured an improvement in their physical health via proxies such as fewer visits to their GP, a decrease in prescriptions, higher reported energy and fitness levels and stamina and better sleep. Walkers felt that health walks had led to increased levels of physical activity. However, across the whole evaluation period people appeared to slightly reduce their level of activity. Qualitative findings concerning mental health showed a positive effect e.g. with stress or depression, and the social element of 'taking part' was highly valued – an opportunity to meet people and socialise giving one participant:

a reason to get up in the morning' (p.29).

In the early days of health walks, schemes were reported as tending to attract keen walkers. However, first-time walkers, who are also significantly more likely to represent disadvantaged groups, do join as schemes mature. The main pathway to participation appears to be via word of mouth or newspapers. Most people who drop out do so as a result of a health condition or other commitments but intend to return at some point. Most schemes continue to operate even after the cessation of funding. Where schemes have not been mainstreamed or integrated into existing local authority or PCT plans, there appears to be a need for volunteer support from a statutory organisation in order to develop and attract new walkers. Volunteers taking over the day-to-day running and administration of led walks tends to improve sustainability (but not in areas of disadvantage where coordinator time is needed to encourage hard to reach groups to take part).

The Well@Work initiative (Paton, 2008) implemented a variety of interventions over a two year period, including pedometer challenges, health checks, fruit giveaways, etc. It sought to improve health in the workplace, involved 10 000 participants, and was evaluated using quantitative measures (at least for reporting). Its various findings included:

- Pedometer challenges could increase weekly step count by a third

- Those taking part in active travel schemes spent an extra 24 minutes walking or cycling to and from work (it was unclear over what time period this gain was made)

- Using encouraging posters and redecorating stairwells increased use of workplace stairs by 28%

- Healthy eating initiatives to encourage intake of fruit and vegetables caused an extra 11% to meet their 5-a-day requirement.

The evaluation made a number of recommendations, encouraging employees to request healthy workplace initiatives, including appropriate workplace building design, 'healthy' catering contracts, integration of health trainers and health checks into the workplace.

A third exercise referral programme was reported, again by Y active (2009; 2008a). The Y active programme involved GP referrals for 1-3 consultations with a referral officer, who completed medical questionnaires, took physiological measurements (height, weight, blood pressure, waist circumference), gauged mental health (Warwick-Edinburgh Mental Well Being Scale) and prescribed an appropriate form of physical activity. The scheme was evaluated, or more accurately monitored, through metrics such as the number of referrals received, the reason for referral, etc. However, other measures used did show a modest reduction in weight, waist circumference and systolic blood pressure and a small increase in mental health score.

Finally, the Young@Heart initiative was a project offering a weekly creative dance session, health information and a subsidised healthy meal. It aimed to promote health, well being and confidence among older people, enable residents to feel more positively about themselves and their community, provide creative opportunities for physical activity and raise awareness of the social, physical and personal benefits of dance activity (Stacey and Stickley, 2008). It was based in a small former coalmining community. The criteria for being referred to the group were that participants were judged by a nurse practitioner as being 'socially isolated'. There were 28 members at the time of reporting, and membership consisted mostly of women (although 5 men had been involved). The age range was 62-93 years and the length of participation ranged from 6 months to 4 years. The initiative was evaluated through participant observation and informal interviews with 8 members and one facilitator. There was a consistent positive expression of feelings among participants:

'Love it, you wake up on a Tuesday morning and you know you're going to see people. I can't describe how much that means to me' (p. 36)

'I come home from here feeling twice as well as when I came' (p. 36)

Many participants described a sense of achievement. They described emotional stimulation through conversation, reminiscence and recollection and physical stimulation through dance and exercise. There was evidence of personal development:

'I've learned a lot about exercise. I try to do some when I'm sitting at home' (p. 37)

'Joining in with people and having a natter with them you are bound to learn new things' (p. 37)

There was also evidence of the importance of group recognition, future vision and group engagement:

'I like to be a sociable person and when you're on your own you don't often see other people. I come here for the company' (p.37)

The authors concluded:

'Social approaches to the organisation and delivery of public health may have considerable potential for health improvement, particularly for those in society considered to be most disadvantaged' (p. 35)

Overall, and in summary, positive findings across the range of included studies for Physical Activity were:

- Increased levels of physical activity

- A high proportion of people exiting to other schemes

- A high proportion of people re-attending

- A lower falls risk

- Weight/BMI reduction

- Reduction in waist circumference

- Reduction in systolic blood pressure

- Improved recovery heart rate

- Increase in mental health score

- Change in attitude to physical activity

- Increased social contact

- Increased sense of well being and/or confidence

- Self-reported improvements in physical health e.g. fewer visits to GP, decrease in prescriptions,

higher reported energy and fitness levels and stamina, and better sleep

- Objective and self-reported improvements to existing health problems e.g. asthma, low back pain, diabetes, hypertension, arthritis, joint problems, and obesity

- An improvement in mental health e.g. reduced stress, decreased depression

- Changes in choice of mode of transport

- Continuation beyond funding

- Expression of emotion

- Increased confidence

- Stimulation

- Personal development

- Group engagement, group recognition and future vision.

Less positive findings across the range of studies included:

- Low uptake

- No reported change in behaviour

- Self-reporting leading to over-reporting of level of physical activity.

Evaluations used a mixture of self reporting and objective measures, with an emphasis on self completed questionnaires and self reporting. Sources tended not to correlate self reported measures and more objective measures although some relatively obvious possibilities might be:

- Weight/BMI reduction/reduction in waist circumference

+ Self reported improvements to weight management

- Higher reported fitness levels

+ Improved recovery heart rate

- Increase in mental health score

+ Increased sense of well being and/or confidence/ a positive effect on mental health e.g. stress, depression

Barriers

Many of the studies drew on other published work and accepted knowledge in proposing barriers and promoters, rather than drawing directly on their own evaluation data.

However, barriers to change identified within the included studies themselves were:

- Lack of time (for both participants and practitioners e.g. for referral)

- Lack of interest or motivation

- Health problems

- Poor planning and coordination

- Concerns about personal safety and lack of an exercise 'buddy'

- Lack of a champion or sustained commitment from practitioners.

Promoters

Promoters to change identified within the included studies were:

- Age-appropriate marketing and recruitment by word-of-mouth

- Mainstreaming into existing programmes and plans

- Transitioning of group interventions towards (volunteer) self-management

- Appropriate group sizes

- Activities appropriate to group make-up

- Administering fitness tests during the intervention

- Robust administrative support

- Choice of physical activity to maximise enjoyment and confidence

- Appropriate design e.g. partnerships, clear referral protocols, skilled workers, exit routes and links to other programmes, training and ongoing support, organisational reform.

Food and nutrition

A total of 20 items were considered to fall primarily within the topic area of Food and Nutrition. Of these 9 were categorised as potential background material. Therefore 11 items were included as primary material and have been analysed in terms of the interventions and evaluations presented in the material. Three of the items were located from the HMIC search; the other eight were obtained from the call to participate and from contacts in local NHS Primary Care Trusts (indicated by * in the list below).

Interventions

The interventions covered by the material are:

- Teaching practical food preparation skills to children – Tyne and Wear (Hyland et al., 2006)

- Training local community members as Community Cooks to deliver a range of food and nutrition activities – Knowsley (Ellahi and Gregg, 2006)*

- Food related activities in Healthy Living Centres – Scotland (Rankin et al. 2006)

- Healthy lifestyle interventions targeting families at risk of CHD – Merseyside (Peerbhoy et al., 2008)

- Food Co-operatives – Cumbria (Towers et al., 2005)*

- Mobile 'not for profit' green grocer van – North and Central Manchester (Emanuel, 2007)*

- Activities aimed at reduction of salt intake by South Asian and Caribbean communities – Manchester (Drummond and Raiswell, 2008)*

- Happy Healthy Toddler programme – Bolton (Bolton PCT, 2008)*

- SHINE weight management Programme – Oldham (Sharman and Wickett, 2008)*

- 5 A DAY community Initiative – East Lancashire (McClaughlin and Walton, 2006)*

- National 5 A DAY programme – 66 PCTs in England (TNS Social, 2006)*.

The main aim for many of the interventions was an improvement in diet; often related to one aspect such as increased fruit and vegetable consumption or reduced salt intake. Other aims related to improving skills in relation to food shopping and cooking, influencing food accessibility, weight management, general health improvement and promoting social support and inclusion.

A range of people carried out the interventions including food technology specialists, local community members, Healthy Living Centre staff, Community Food Workers and Community Nutrition Specialists, Food and Health Advisors and trained professional facilitators. Funding came from a variety of sources including Big Lottery Fund, Health Action Zones, Primary Care Trusts, Rural Regeneration Unit, Joint Health Unit and Food Standards Agency.

Participants in the different interventions included young people, parents with a young child, older people, people living in the location covered by the Healthy Living Centre or the area served by the intervention (food co-operative, greengrocer van, 5 A DAY programme) and South Asian and Caribbean members of faith or community groups. The context for the interventions was often disadvantaged areas or regeneration areas.

The intended metrics for evaluation included physiological measures (e.g. BMI, waist circumference, body fat); measurement of change in fruit and vegetable consumption; attendance; participants views of intervention; actual or intended behaviour change; impact on self-esteem and confidence; opportunities provided for increasing social capital; use of intervention as a skills escalator and resources required for sustainability

Evaluations

The interventions were evaluated using specific tools for measurement (physiological measures), questionnaires and interviews, often with both the participants and with the people carrying out the intervention. In one intervention qualitative analysis of fieldwork was carried out (Rankin et al, 2006). The evaluations were usually carried out during and at the end of the intervention although in some cases evaluations were done later e.g. 6 months after the intervention and 2 years from the start of an on-going intervention (McClaughlin and Walton, 2006; TNS Social, 2006; Emanuel, 2007; Peerbhoy et al, 2008). The evaluations were carried out by Higher Education Institutions, Independent Consultants and the intervention

facilitators. Funding for the evaluations was provided from a variety of sources including the Department of Health; Big Lottery Fund; Scottish Executive; Department for the Environment, Food and Rural Affairs; Food Standards Agency, PCTs.

Findings

In an intervention which involved teaching practical food skills to children from secondary schools in Tyne and Wear (Hyland et al, 2006), 44% of the children attended 15 or more sessions of a 20 week course. Pupils enjoyed the informality and the activity-oriented nature of the course which was a voluntary after school activity. Regular attendees felt that they had learnt a lot about practical skills in relation to cooking and reported increased confidence in this area. Their engagement with health promotion messages was marginal compared to concerns of having fun and fending off boredom. Many pupils reported that they had added fruit to their diet; enjoyment was central to any changes. Pupils' ability to influence family food choices was limited.

The Community Cooks intervention in Knowsley (Ellahi and Gregg, 2006) was mainly carried out in the most deprived wards and in total four hundred and sixty nine sessions were delivered. Of the people attending the sessions 98% of adults said they had acquired knowledge of healthy eating and 100% reported that their understanding of recipe adaptation to create healthier dishes had improved. Approximately three quarters of adults reported that shopping, cooking and eating habits as well as cooking skills had or would change due to the scheme. Adults reported an increase in

fruit (61%) and vegetable (58%) intake, reduced use of salt at table (48%) and in cooking (47%) and choosing low fat alternatives (55%). Older people were more reluctant to change habits but gained benefits from an opportunity to socialise and learn about cooking for individuals. This scheme demonstrated active referrals from several other programmes - working in partnership with other programmes and community groups is recognised as an important influence on the success and sustainability of such programmes (Colman and Emanuel, 2008).

Rankin et al., (2006) explored food-related initiatives developed at Healthy Living Centres (HLCs) in Scotland and found a number of initiatives which related to improving access to food for example, food co-operatives and 'fruit barras' (fruit and vegetable drop-offs for organisations). Both of these initiatives were aimed at providing cheap and accessible quality food for people. Some centres used food co-operatives with the aim being:

'not about healthier food options but health in the widest sense, ….people come and talk about housing …' (Project Worker p.650)

McGlone et al. (1999) discuss how the reconciling of different agendas can help facilitate the success of food projects, particularly when those agendas are stable and owned by all stakeholders. Some of the HLCs had developed links with local businesses who were encouraged to donate unused and date-limited food to charities for distribution to groups on low incomes. They were also encouraged to supply healthier food choices which would then be promoted

by the HLCs. This is an example of how some of the structural barriers to healthy eating can be addressed by working in partnership with local businesses. There was some indication that delivery of food hygiene courses had been effective in enabling some centre users to gain employment.

One of the outcomes explored in the development of food co-operatives in Cumbria (Towers et al, 2005) was the potential to use them as a setting in which the skills of volunteers could be escalated in order to impact on employment opportunities. However, volunteers were resistant to formal training and valued the relative simplicity of a model that did not involve paperwork, membership or a commitment to buy regularly. In this initiative the customers of the food co-operatives valued the social aspects of involvement and reported making new friends which had in turn impacted on self confidence and self esteem. 63% of the forty customers interviewed reported that they ate more fruit and vegetables, and 71% felt that they ate more healthily. Customers had a good knowledge of a healthy and balanced diet, valued it and felt that the co-operatives had helped them to achieve it.

Another initiative aimed at improving access to quality food was the 'Herbie 1' mobile fruit and vegetable van based in north and central Manchester (Emanuel, 2007). This initiative was started in 2004 and operates in areas where 41% of adults eat fruit and vegetables less than once per day. Approximately 80 people a week use 'Herbie 1' and many of them are from isolated and vulnerable groups. 76% of people said they had used Herbie

for over a year and nearly a third said they had been using Herbie for 2 years or more. Two thirds of 'Herbie 1' users have increased the amount of fruit and vegetables they eat since starting to use the service. This again is an initiative with good links to other community groups. It is popular with a range of workers and agencies that are willing to help with promotion and develop work in partnership with the initiative. Several partners look to Herbie to supply fruit and vegetables for community projects.

Three of the included studies described interventions that were aimed at engaging people in healthy lifestyles through a time-limited programme of activities. These were a community lifestyles intervention in Merseyside, aimed particularly at families at risk of coronary heart disease (Peerbhoy et al, 2008), a programme designed to raise awareness of and reduce salt intake in members of South Asian and Caribbean communities in Manchester (Drummond and Raiswell, 2008) and a healthy lifestyles programme aimed at parents and toddlers (under 4 years) in Bolton (Bolton PCT, 2008). Attendance at two of these programmes was varied (Bolton PCT, 2008; Drummond and Raiswell, 2008). In the Merseyside intervention (Peerbhoy et al, 2008), for the thirty four families who took part in the evaluation of the intervention, physiological changes were only minor and mostly not sustained by 6 months. The focus group discussion on health behaviours centred on dietary and eating habits; the emphasis was on good intentions and being more aware of dietary habits and food shopping,

'Learnt to do healthier options of regular meals' (Dad p.138)

'I shop with my head not my heart now' (Mum p.138)

There was less discussion on physical activity behaviours. Participants continued to foster the idea that increased physical activity comes only through scheduled classes. The importance of the facilitators was stressed, particularly in terms of the support they offered to families,

'the people is the project for me' (Mum p. 139)

The families were positive about the programme even when some of the original aims, for example in terms of weight loss, had not been achieved. They felt that the programme had given them a 'boost' to progress. The adult self-report data indicated a move towards healthier options over the 14-week course. They reported increases in fruit and vegetable consumption, wholemeal bread and use of low fat options. Heavy drinkers reported having less units of alcohol/week after the programme. Increases in physical activity were reported with some maintenance beyond the end of the programme (at 6 months). However rates of physical activity were lower than recommended levels. The young people's self-reported data showed increased consumption of healthy foods and reduction in some unhealthy options e.g. crisps. These changes were often sustained at 6 months. Data showed more packed lunches being taken to school. There was increased extra curricular physical activity through the gym or swimming by the end of the programme. Young people reported feeling more fit and

said they had increased enjoyment of physical activity.

The 'Tasty not Salty' intervention aimed at reducing salt intake amongst members of South Asian and Caribbean communities in Manchester (Drummond and Raiswell, 2008) highlighted some of the difficulties of working with established community and faith groups which may have fluctuating membership. Relatively small numbers of people received this intervention for this reason. Amongst those who did engage, the intervention successfully raised awareness of the importance of reducing salt consumption but it was recognised that ingrained cultural patterns of behaviour could inhibit sustained behavioural change. The distinction between high salt foods (crisps, processed foods, ready made seasonings) and foods that contribute to salt intake because they are eaten in large amounts (bread) was difficult to communicate. The evaluation of this project highlighted that some of the targets set (reduction of salt intake to no more than 6g/day, reduction of use of salt in cooking and at table) were too challenging to deliver in the time allocated and that the project was just starting to gain momentum as the funding ended. What is not clear in the evaluation is the ethnic and cultural background of the community food worker who ran group sessions. It is also not clear if anyone from the two communities was involved in designing the sessions that were held with the participants.

In the Happy Healthy Toddler project (Bolton PCT, 2008) numbers attending sessions varied between 0 and 7 families. 4 families attended at least half of the sessions. The self reported learning from the individual sessions was related to understanding a balanced diet, making mealtimes fun, interacting positively with children and role-modelling in terms of diet and physical activity

'the eatwell plate , it will help me on what to give my child' (Mum p.5)

'To stick to my word and help keep ……..eating fruit by eating it with her' (Mum p.7)

'To interact positively and give lots of praise' (Mum p. 7)

The end of programme evaluation indicated that some families had made changes such as all eating together around a table and turning off the TV, using fruit as snacks between meals, playing more in the backyard and walking the toddler to the shops rather than using a buggy. The parents felt they had learnt specifically about healthy snacks, portion size and food labelling.

One of the studies described an intervention aimed specifically at weight management in children aged 12 -14 years in Oldham (Sharman and Wickett, 2008). Of the seven children who started the twelve week programme (five male and two female) two participants withdrew from the programme (both male). With regard to the quantitative data collected, by the end of programme three participants had decreased BMI while two had increased. All five participants showed an increase in body fat percentage by midpoint. Three participants then reduced fat percentage by end of programme and two stayed the same. Three

participants reduced waist circumference and two increased. Two participants decreased peak flow by the end of programme, one increased and two stayed the same. It took the young people a long time to engage in physical activities. This was attributed to poor past experience of physical activity and lack of competence. Qualitative data revealed that participants and their parents subjectively reported increased levels of confidence and self-esteem and reduction in stress levels.

'I have learnt how to deal with bullies' (Young person p.22)

'I have achieved to lose weight' (Young person p.22)

'Have achieved ability to calm my anger' (Young person p. 22)

'I have achieved friends and if it was not for SHINE I would have put on a lot of weight. (Young person p. 22)

'I enjoyed all the exercises and really enjoyed working in a group' (Young person p. 23)

'Levels of confidence have risen dramatically' (Parent p. 23)

All 5 participants opted to continue on to the maintenance stage and to attend buddying training (in order to buddy young people on the second cohort of the programme). This evaluation provides an example of important short-term aims related to self confidence and self esteem, which may be important precursors to making the necessary dietary and physical activity changes for effective weight management. The variability in changes assessed through physiological measurement mirrors the

findings by Peerbhoy et al. (2008) and may well support their contention regarding the plausibility of these measures as short-term goals.

The two evaluations of the 5 A DAY initiative related to the East Lancashire programme (McClaughlin and Walton, 2006) and the national programme (TNS Social, 2006). The 5 A DAY initiative incorporated a wide variety of different activities related to fruit and vegetables which were aimed at increasing awareness of health benefits, increasing acceptability, increasing access to quality fruit and vegetables and increasing consumption to a variety of five pieces a day for all adults and children. The East Lancashire programme incorporated fifty two Cook and Taste sessions which were run for six hundred and forty eight participants. 90% said they had learnt new skills and 95% planned to eat more fruit and vegetables. A 'Can't Cook – Want to Cook' course was delivered and participants demonstrated improved scores for knowledge of 11% on average and 92% of them said they planned to use skills learnt on the course in their own home. One hundred and seventy five people took part in competitions to grow fruit and vegetables in pots. Qualitative evaluation showed the experience had improved participants' sense of well being, increased their growing and cooking skills and often increased their reported consumption of fruit and vegetables. Fifteen schools started healthy tuck shops. The average percentage of children buying fruit each day varied from 14% to 40%. Nineteen school cooks and welfare assistants received training which included the 5 A DAY message. 74%

planned to put skills and techniques from the course into practice. The main findings from the national evaluation of the initiative which looked across all of the populations served by sixty six PCTs who had participated, along with 'matched' control populations, were that most PCTs worked in partnership with neighbouring PCTs and the most popular activities were work with school children, cook and eat activities and media campaigns. Staff had varying degrees of success in recruiting participants to activities. There was evidence from every case study area that participants of activities had experienced benefits for example, changed attitude towards healthy eating and maintenance of increased consumption of fruit and vegetables. Respondents in programme and control areas had both increased consumption, with no greater improvement in the programme areas. Lower levels of consumption were reported amongst men, younger people and people living in disadvantaged areas, but these groups showed the biggest change in consumption. Factors affecting consumption remained unchanged over the time of the programme, the quality of the produce being most influential. Knowledge of the recommended level of consumption had increased substantially over the programme period. There were also improvements in terms of identifying the numbers of fruit and vegetable portions in a range of foods and understanding the health implications of fruit and vegetable consumption.

Barriers

A number of different barriers to the success of the interventions were identified from the different reports. These included parental responsiveness to children's achievement. This could be lack of response or negative response (Hyland et al, 2006; Peerbhoy et al, 2008). Another aspect of lack of support is identified in Peerbhoy et al. (2008) where a slow response to the community lifestyles initiative by local GPs was felt to have impacted on the potential of the programme.

Time is identified as a barrier in a number of the interventions. Peerbhoy et al. (2008) and Bolton PCT (2008) identify a lack of time from the participants' perspective as impacting on engagement in change and on attendance at activities. The actual timing of activities is also identified as a barrier (Bolton PCT, 2008; Emanuel, 2007). The Happy Healthy Toddler programme was run in the morning and participants reported that this was difficult for them and that afternoon sessions would be better. The programme also ran over the period that included Eid celebrations and this impacted on engagement by some community members. The 'Herbie 1' green grocer van did not always operate on the most popular shopping days for the communities served. The other element of time that is identified as impacting on programme outcomes is the time over which the initiative is funded. Both Peerbhoy et al. (2008) and Drummond and Raiswell (2008) discussed the frustration at outcomes being unrealistic within the time frame set for the intervention.

Rankin et al. (2006) point out that some people did not engage with the

initiatives run from Healthy Living Centres because of the associations between the name and the governments 'Healthy Living' campaign which they viewed as unwanted interference in their lives.

Lack of publicity of a service and high profile publicity was seen as impacting on the success of the 'Herbie 1' mobile greengrocer initiative (Emanuel, 2007). 'Herbie 1' had operated for some time without livery (now resolved) and the stopping points were not easily visible and not all of them were felt to be in appropriate places. The evaluation identified that involvement of the community and of the drivers and community food workers in the planning of the route and itinerary of 'Herbie1' would have been helpful.

Cultural issues which are poorly understood or not addressed as part of the planning stage of an intervention will impact on success. This is indicated in the evaluations of the 'Tasty not Salty' initiative (Drummond and Raiswell, 2008) and the Happy Healthy Toddler initiative (Bolton PCT, 2008).

The complexities associated with behaviour change are identified in Peerbhoy et al. (2008) where participants discussed the convenience of maintaining previous health behaviours; this is also acknowledged in Drummond and Raiswell's work (2008).

Promoters

Again a number of factors were identified that were felt to have promoted the success of the interventions. The informality of the intervention was identified as a

strength in both the after-school club teaching practical food skills to children (Hyland et al, 2006) and in the Cumbria Food co-operatives initiative (Towers et al, 2005).

Using a variety of different approaches and activities to engage people in the initiatives was recognised as helpful in the Knowsley Community Cooks scheme (Ellahi and Gregg, 2006) and in the national evaluation of the 5 A DAY initiative (TNS Social, 2006). The Community Cooks scheme also identified the impact that using facilitators from the local community had on the success of the intervention. They were seen as understanding the lifestyles and limitations of the community and could support people in overcoming some of the barriers for example, low incomes and availability of quality food. This scheme also identified approaches to changing eating behaviours which were successful. For example, substitution of one item for a similar one such as grilled rather than fried food and supplementing the diet with fruit and vegetables rather than restricting the diet in any way.

Flexibility of support to change behaviours or engage in programmes was important to participants in the Merseyside healthy lifestyles intervention programme (Peerbhoy et al, 2008). The facilitators were able to tailor support to the different needs of families who participated.

Partnership working was seen as integral to the success of some of the programmes (Rankin et al, 2006; Peerbhoy et al, 2008; Towers et al, 2005; Emanuel et al, 2007; TNS Social, 2006). These partnerships were developed respectively with local

businesses, local PCT staff, Rural Regeneration Unit, local community groups and other PCTs.

Another identified promoter of success was the use of practical activities, which all of the programmes and interventions employed. The national evaluation of the 5 A DAY programme (TNS Social, 2006) identified that activities that offered tangible and instant benefits to individuals and communities were the easiest to recruit to. This fits in with the concept of exchange which is concerned with minimising cost and optimising potential benefit of behaviour change (Department of Health, 2008).

Mental health and well being

A total of 22 items were considered to fall into the Mental Health and Well Being topic area. Of these, 10 items were considered potential background material and were not included. These included reports by the Department of Health, the Department for Work and Pensions, The King's Fund and some journal articles that, although they were looking at behaviour change, did not have an identifiable evaluated intervention.

Of the 12 items that were included in the review, one was located from the CINAHL search, two were located using HMIC, eight were obtained from the call for participation (see Appendix A) (indicated by * below) and one was located via the Social Inclusion Unit website (and a personal contact).

The following items met the inclusion criteria:

- The Cross Links young adults group rap project – Knowsley (Crosslinks, 2008)*

- The Pathways to employment course – Ellesmere and Neston (Cole, 2009)*

- Working the land, an evaluation of care farming – national (Hine et al., 2008)

- The impact of an allotment group on mental health clients health, well being and social networking –Bristol (Fieldhouse, 2003)

- An evaluation of The Multiple Heritage Service – Sheffield (Phillips et al., 2008)

- The Evaluation Report on a One Year Physical Activity Project For Clients of a Community Mental Health Team (CMHT) – Manchester (Malik, 2006)*

- Himmat and Saharah Project Positive well being sessions – Oldham (Khan, 2008)*

- Himmat and Saharah Project Art sessions – Oldham (Khan, 2008a)*

- Activity for Life – Knowsley (Creative Research, 2008)*

- Mum's in Art – Stockport (Burgess-Allen, 2008)*

- Sing for Your Life – Knowsley (Raisbeck, 2008)*

- The Accredited Volunteer training Report – Bury (Friel, 2009)*

Interventions

The interventions were varied ranging from work experience, workforce singing sessions, a 12-week art course for mums at risk of, or experiencing post-natal depression (PND), two allotment groups, a rap project, positive well being sessions, art sessions, farming courses from Work the Land, the Multiple Heritage Service, which provided group work and mentoring for young people of multiple heritage, physical activity interventions and an accredited volunteer training scheme.

The aims of the sessions included: to improve mental well being, increase social purpose and reduce social exclusion, develop skills and the challenge involved in doing that, reduce stress, improve physical activity

and well being, increase self esteem, confidence and communication, raising awareness of mental health and self help strategies/coping mechanisms, developing and improving social networks, promoting overall mental health and well being, and improving physical activity.

Interventions were carried out by occupational therapists, mental health nurses, support workers, sense of sound, artists, health visitors, cross links, the national care farming initiative, a rap artist and DJ, and the Multiple Heritage Service.

The participants of the programmes were of a range of ages and were drawn from various groups.

The funding for these initiatives came from a number of sources including, PCTs, Local Councils, NHS Trusts and North West Regional Arts Council grants.

Evaluations

The evaluations were most commonly questionnaires, with some focus groups and semi-structured interviews (some of which were carried out by telephone). Several programmes used a range of pre-existing evaluation tools:

- The Sing for Your Life workforce singing project used an adaptation of Antonovsky's 13 item sense of coherence questionnaire

- The Mums in Art project from Stockport PCT used the Edinburgh Post-Natal Depression Scale (EPDS), the Warwick-Edinburgh Mental Well Being Scale and the Parent Stress Index

- The Multiple Heritage Service used the Rosenberg Self Esteem Scale, GHQ12 and the Strengths and Difficulties Questionnaire (SDQ) and conducted telephone interviews with participants' mothers.

In addressing issues of sustainability, the Activity for Life project (Creative Research, 2008) conducted an independent evaluation comparing pre- and post- health measures for both the initial scheme and the 'plus' scheme, as well as following participants 12 months post-intervention, to establish if they remained physically active.

For some interventions the data collected aimed to 'identify key positive experiences of participants and to track changes'; also 'hoping to identify if the project aims were aligned with reported experience and outcomes' (Raisebeck 2008, p.3).

Finally, the Mums in Art project (Burgess-Allen 2008) was, among other things, concerned specifically with generating information that could 'inform future development of community based services to meet the needs of mothers suffering from PND.' (p.6)

Findings

For the Mums in Art project all the participants had reported very positive feelings about the group, particularly valuing the chance of 'me time' (Burgess-Allen 2008, p.3). The 12 week art course aimed to promote the

mental health and well being of women who were at risk of, or experiencing post natal depression. The group was developed following a pilot project of the intervention in 2003. The service provided crèche facilities without which, some of the women commented, they would not have been able to attend. The evaluation identified that the relaxed and accepting environment which the facilitators of the group created was important to participants and made them feel welcomed and valued. A number of the women reported that attending the group had increased their confidence to do things that they would not normally have done. The findings would appear to indicate that the aim and objectives of the project had been met. The interviews and focus groups identified that the women valued meeting other women who were suffering from PND and enjoyed a broadening of their identity at a time when some had felt overwhelmed with the role of motherhood.

Pathways to Employment is an intervention that primarily focuses on employment as a mechanism to improve the mental health of unemployed people (Cole, 2009). It is still undergoing evaluation, with a health impact assessment currently underway. Initial information shows that the four week tutor-led programme, followed by a four week placement, worked best when partnerships were developed with other learning providers and health and social care employers in order to ensure a smooth transition back into work. However, clear barriers to the success of the intervention were the attrition rates from the course and the placement areas.

Sing for Your Life (Raisbeck, 2008), a workforce singing project, facilitated by Knowsley Primary Care Trust and Knowsley Council as part of a Creative Workforce Development Project, recorded very positive feedback from participants in relation to high levels of enjoyment, fun, relaxation and challenge. It was noted in the evaluation that the health of people in Knowsley was significantly worse than the England average. As most of the council employees lived within the borough, tackling workplace health was identified as a priority and the Sing for your Life project was developed in response to this. The evaluation highlighted that the aims in relation to social purpose and inclusion were all achieved. They did however report that the results of Antonovsky's 13 item sense of coherence questionnaire were inconclusive. The key positive findings from many of the participants were related to feelings of relaxation, using the taught breathing techniques outside sessions and reporting high levels of enjoyment of and satisfaction with the sessions. The evaluation of this project recommended that additional sessions take place and that there should be an examination of the methods for recruiting and retention due to the high rate of attrition. It was also thought that the advertising of the sessions as 'workshops' or 'training' may have had a detrimental effect on participation (Raisbeck, 2008, p.19) .

Activity for Life is a 12 week exercise referral scheme provided by Knowsley PCT and Knowsley Metropolitan Borough Council for residents of the

borough (Creative Research, 2008). Physical health measures were taken pre- and post- intervention, as well as twelve months after the original referral. 84% of participants from the Activity for Life scheme had improved overall health status following the programme, with 6% staying the same and 10% getting worse. 70% of the participants had reported an improvement in their mental health and well being. Overall satisfaction with Activity for Life was very high with a third of participants reporting that they were very satisfied with almost every aspect of the programme. The evaluation highlighted improvements in 11 of the 14 health measures that were included in the study. It also highlighted improvements in self-reported levels of physical activity and attitudes towards it and improvement in mental health and well being (Creative Research, 2008).

The Evaluation Report of a One Year Pilot Physical Activity Project which targeted clients of a Community Mental Health team in Manchester also showed some benefits for the participants (Malik, 2006). The aims of the pilot were to offer exercise for clients wishing to be more physically active, to provide physical activity sessions as a stepping stone to using mainstream fitness services and to develop participants' confidence, with the overall aim of improving their social inclusion. The benefits gained for both the men's and the women's groups included an increase in self confidence, improved concentration, decreased anxiety and self reported improvement in physical health and fitness (Malik, 2006). Some of the factors that were identified as

preventing participation in the pilot were directly related to the clients themselves and included 'having a bad day'; poor motivation; difficulties associated with medication side effects; poor sleep patterns; feeling physically unwell; hospital appointments or hospitalization and psycho-social stressors at home (Malik, 2006, p.12).

Knowsley PCT ran a series of rap workshops in partnerships with Cross Links, a community based service that supports young people with mental health needs to work towards recovery and social inclusion (Cross Links, 2008). The evaluations of the workshops were for the most part positive; participants reported that it was helpful to share their experiences and talk to each other about their illness and they also commented on gaining satisfaction from the acquisition of new skills. The post intervention questionnaire examined participants' perspectives on the outcomes of the project, including self esteem, group work, enjoyment, confidence and development of new skills. Participants reported positively in respect of all of these. Again, as with many of the interventions, the social aspect of the project was important with participants citing making new friends and experiencing support as a source of enjoyment of the group work. Participants also expressed a wish for additional sessions so that they could carry on developing new skills.

The Himmat and Sahara project offered two evaluations of interventions carried out in the Oldham area (Khan, 2008; Khan, 2008a). The Positive Well Being Sessions and the

Art Sessions were offered with the aim of promoting the health and well being of BME women within the Oldham area. Evaluations were carried out using 'coop charts' to measure changes in health status and a focus group was carried out at the end of the six weeks to explore the perceived benefits of participating in the sessions. The evaluations indicated that there had been some positive shifts in health status and a demonstration that

'focused pieces of work around mental health promotion can offer women an opportunity to better understand their mental health and well being' (p. 6)

More women had identified that they felt less sad/anxious or depressed following the sessions. And again, the women commented on the social aspect of the group as being a positive aspect. Some of the women attended the project hoping to improve their social networks. Some of the issues highlighted were related to the number of sessions delivered and the limited impact that the activities had for the women outside of the sessions. The evaluation indicates a need to address issues related to the continuity of the projects and how the skills learnt can be maintained and put into action (Khan, 2008; Khan, 2008a).

The Multiple Heritage Service in Sheffield provided a mentoring service to young people with some school based group sessions related to cultural heritage, dealing with racism and enhancing well being (Phillips et al., 2008). The group work sessions were found to be particularly successful for boys and younger children and in improving well being for the older children. It was not

successful with regard to the impact that it had on problem behaviour as measured by the SDQ. It was thought that there was a possibility that the group work did not really address this aspect. The children's mothers did report positive benefits of the mentoring programme, with several of them commenting on the positive changes in the way the children interacted with other people, dealt with potentially disruptive situations and managed their anger (Phillips et al., 2008). Mentoring was also seen to be positive in relation to building the self esteem of the children.

Fieldhouse (2003) evaluated the Community Mental Health Team Allotment group which had been running for a number of years in the Bristol region. Initially the group had not had any specified aims but it was discovered that there were some distinct benefits upon evaluation. The benefits of social networking, therapeutic horticulture and well being had become a significant part of the development. The participants were found to value the natural environment and being outdoors which was felt to offer a sense of peace and removal from customary stressors. Most participants described how they experienced clearer thoughts and different thinking when they were on the allotment. They noted benefits such as improved concentration and an appreciation of the natural environment and its beauty. Fieldhouse (2003) identified three particular themes, namely the level of engagement with the allotment group, the spontaneous emergence of aims and goals and the opportunity for social networking. The participants had expressed that having regular access

to a social group had been extremely beneficial in developing friendships and support as well as peer learning.

The National Care Farming Initiative (NCFI) UK provides access to care farms as a way of promoting mental health and physical activity using commercial farms and agricultural landscapes (Hine et al., 2008). A questionnaire was designed by the University of Essex to provide some empirical data about the care farming initiative. The vast majority of farms (70 out of 76) had undertaken evaluations of their own to assess the service they were providing. The farms reported improved physical health for participants (88% of farms), improved self esteem (93% of farms), improved well being (92% of farms), and improvement of mood (83% of farms). They also reported other benefits such as, increased self confidence, enhanced confidence or trust in other people and increased sense of calm (Hine et al., 2008). The participants' survey included 72 people ranging from 16-65 years of age; the participants had been visiting the farms from anything between one month and several years. The findings were particularly significant, showing that 94% of the participants had seen a significant reduction in their feeling of anger scores after time spent on the farm. There was also a statistically significant decrease in confusion scores with 78% of participants reporting feeling less confused after spending time on the farm. There were significant decreases in their depression scores, fatigue score, tension scores and an increase in their vigour scores (Hine et al., 2008).

The final intervention examined was the Accredited Volunteer Training facilitated by Pennine Care Foundation Trust. The volunteer training ran twice a year, one day a week for six weeks and was primarily for service users and their carers. The aims of the volunteer training were to provide volunteers with training that would give them a recognized qualification they could use to support their personal and professional development and to support the inclusion of service users and carers in the design and delivery of mental health services (Friel, 2009). Of 53 students, 49 had been successful in passing the course and gaining a recognized award of credit. The majority (36) had been volunteers or were currently volunteering with the Trust or in mental health services within their own communities. Approximately twenty were seeking to gain employment at some point in the future; four participants had entered part or full time employment; three were applying to complete their nurse training and for six the outcomes were unknown. It was reported that the course was very much about challenging stigma and promoting social inclusion and the recovery philosophy (Friel, 2009). Overall the interventions had helped the participants enhance their skills and knowledge around working with people with mental health problems, improve concentration, improve self esteem, improve physical health, increase confidence, improve sleep patterns, reduce stress levels, enjoy the benefits of social interaction, and for some it had impacted on their job satisfaction.

Barriers

There were some identified barriers to the success of the interventions. In the Sing for Your Life project distance of travel to the project and workloads were a particular concern, which meant that some participants would dip in and out of the sessions (Raisbeck, 2008).

For some of the other interventions barriers highlighted were: lack of awareness by other professionals which meant that referrals to interventions were not always timely; concern by other professionals about the legitimacy of some of the organizations which impacted on how well they were used; policy support and funding.

For the Multiple Heritage Service and the Mum's in Art project it was felt that referral to initiatives only seemed to occur once crisis point had been reached (Phillips et al., 2008; Burgess-Allen, 2008). A participant from the Mum's in Art project stated that she had already spent nine months feeling dreadful before she was made aware of the project.

For the Rap project in Knowsley, it was thought that ability to rhyme had been a barrier to taking part as some of the participants had initially felt unconfident about their ability to do so (Cross Links, 2008).

The Pathways to Employment project was far the only service to consider attrition rates as a barrier to undertaking the intervention. The Sing for Your Life workforce singing group mentioned attrition rates but did highlight possible ways to overcome these for future development (Raisbeck, 2008). The allotment scheme had identified that due to the nature of the group members' mental health problems they were sometimes unable to attend. This barrier was also recognised in the one year pilot Physical Activity Project for clients of a CMHT in Manchester (Malik, 2006).

Promoters

Having a core group of people who regularly attended was identified as something that encouraged sustainability although some projects were successful despite sporadic attendance by participants.

Having a sense of ownership was also an important element to the programmes as this encouraged participants to feel that they had made a personal investment in the project.

Some projects had benefited from facilitation by external professionals, who fell outside mental health services. This had been seen as a valuable promoter of social inclusion which was important to participants. (Malik, 2006; Burgess-Allen, 2008; Cross Links, 2008; Raisbeck, 2008).

Projects that had run for a long time enabled practitioners to know the clients well, which increased early detection of distress and relapse.

The element of social networking and developing friendships was also important for the majority of participants and was mentioned within almost all evaluations.

Participants from a number of projects also commented that they would have liked the programmes to either run for longer periods of time or have follow on programmes that could pick up where the others left off.

Discussion

The mixed approach to locating information about the effectiveness of public health interventions or programmes was effective in locating a comprehensive range of grey literature. Of the 36 items included in the final analysis 26 were obtained from the call for participation (see Appendix A) and 10 were obtained from the searches performed on the different databases/websites (HMIC 6, CINAHL 3, Social Inclusion Unit website 1). This experience has been shared by other reviewers of health intervention evidence (Ogilvie et al., 2005) and may provide useful guidance for future researchers, particularly when reviewing grey literature. It would appear that direct approaches to authors, experts, etc. (detailing specific inclusion criteria) is an effective method of sourcing relevant 'grey' health intervention evaluation studies.

This report, and the selected literature it describes, covers a wide range of interventions. The different interventions for all three areas can be said broadly to have used four approaches to engage people and communities in behaviour change and in improving their sense of well being:

- Involvement in practical activities

- Provision of advice and information to increase knowledge and understanding

- Improvement of access to resources

- Support and encouragement to make changes.

Some of the interventions were national initiatives for example, the LEAP initiative (Carnegie Research Institute, 2007), 5 A DAY programme (TNS Social, 2006), Pathways to Employment (Cole, 2009); some linked with particular communities for example, Get Active – Get Alive (McAllister and Chourbaji, 2006), food-cooperatives (Towers et al., 2005); and some worked with individuals and families, for example in tailored exercise referral (Dinan et al, 2006), the SHINE programme (Sharman and Wickett, 2008), and the Multiple Heritage Service (Phillips et al, 2008).

The level at which an intervention is targeted is important in terms of the impact and sustainability of the intervention. Guidance from the National Institute of Health and Clinical Excellence (NICE, 2007) states that the effects of an intervention or programme are rarely restricted to one level, irrespective of the original target group (individuals, communities or whole populations); but that population-level interventions have the greatest potential for sustainable change. In support of this, Rankin et al. (2006), from this review, discuss how individual level interventions do not address the structural factors that may present real barriers to behaviour change or improvement in well being.

The respective interventions for the three areas generally had a main aim of improving physical activity, diet or mental health and well being, and this was often supported by more specific aims such as improvement in balance and strength (physical activity), weight management (food and nutrition), reduction of stress (mental health and well being). Several of the

interventions targeted more than one of the three areas in their aims. It is interesting that some of the interventions in all three areas also aimed to improve self esteem and confidence and promote social support and inclusion alongside improving access to resources to improve health in a general sense. This is perhaps not surprising given the impact that physical activity, food and nutrition and mental health and well being have on each other (Blank et al., 2007; National Institute for Health and Clinical Excellence, 2008).

The outcome measures used in the range of interventions were similar across all three areas in that they included routine monitoring data related to attendance, and where appropriate details related to the referral process. Other 'objective' measures used were physiological data; measurement of health (SF36); measurement of well being (GHQ-12 questionnaire, Antonovsky's sense of coherence questionnaire, Edinburgh Post-natal Depression Scale, Warwick-Edinburgh Mental Well being Scale, Parent Stress Index, Rosenberg Self Esteem Scale and the Strengths and Difficulties questionnaire); measurement of knowledge and attitude pre- and post- intervention; measurement of change in behaviour and the cost of an intervention. Alongside these measures most of the interventions aimed to collect self-report data from participants, facilitators and other stakeholders with regard to change in behaviour or intention to change; impact of the intervention on self esteem confidence and general well being; opportunities provided by the intervention to increase social capital and any other

additional benefits resulting from the intervention. What is not clear from the reports is whether these metrics were developed in consultation with intended participants, facilitators and stakeholders when planning the intervention. This is seen as an important aspect of successful interventions (McGlone et al., 1999; Rychetnik et al., 2002; National Institute for Health and Clinical Excellence, 2007). In general the reports did not identify outcomes related to process i.e. planning and delivery of the intervention and did not distinguish between shorter term impact outcomes or longer term indicators of success. Inclusion of these outcomes for the evaluation of public health interventions is recommended (Health Development Agency, 2001; Rychetnik et al., 2002; National Institute for Health and Clinical Excellence, 2007).

The tools used for collecting data related to outcome measures were again similar and included tools for physiological measurement, questionnaires and individual and group interviews. Questionnaires either previously validated or designed for the intervention seemed to be the most common method of data collection although one of the included interventions for food and nutrition used an in depth qualitative analysis of fieldwork to evaluate an ongoing intervention (Rankin et al., 2006). Given the complexity of behaviour change and the number of different factors which can influence it, a variety of different methods should be employed to evaluate interventions with the aim of collecting both quantitative and qualitative data (Campbell et al., 2000; Health

Development Agency, 2001; Rychetnik, 2002).

The evaluation findings generally related directly to the expressed aims of the interventions and there was synergy across the three areas in relation to the positive impact that interventions had on general sense of well being and increased opportunities for social interaction. This outcome was demonstrated, particularly from self-report data, in the majority of the interventions reviewed. There was not generally any attempt to correlate objective measure findings and self-report findings although in two of the food and nutrition reports the lack of success with regard to physiological changes was contrasted with the very positive self-report data related to change in behaviour, intention to change and self esteem/self confidence (Sharman and Wickett, 2008; Peerbhoy et al., 2008).

Interestingly some of the findings from the SHINE programme, which was delivered in Oldham (Sharman and Wickett, 2008) contrast with the findings from the MEND programme which was delivered in Fylde (Y active, 2008; Y active, 2008a) with only the latter demonstrating changes in physiological measures. Both programmes were aimed at supporting weight management for children although the Fylde MEND programme worked with a slightly younger age group and had more emphasis on increasing physical activity levels. There could be any number of explanations for these two contrasting findings. This perhaps demonstrates the need to identify different outcome components (process, shorter term and longer term) which are relevant

and realistic in relation to the nature and timescale of the intervention.

Some of the reports highlighted poor or variable attendance/engagement for some of the programmes or interventions and the reasons for this are not always explored in any systematic way. An evaluation which includes clear process outcomes could help in understanding these issues more fully.

There is some synergy across interventions for all three areas in relation to factors that promoted or inhibited the success of different interventions. A common barrier was time. This related to the time available to both participants and practitioners/facilitators to engage in the intervention and to the length of time over which the intervention/programme ran. A number of issues should be considered here. The context in which interventions are carried out is recognised as having considerable impact on their success. People have a number of different competing demands on their energies and resources, and engagement of the local community in the planning and evaluation of interventions may be useful in ensuring that they are organised in an accessible way, which makes realistic engagement more likely. There is some recognition that behaviour change interventions (and their evaluation) should have some elements which are dynamic and responsive to needs that might arise as a result of the intervention (Colman and Emanuel, 2008). Unless there is an attempt to recognise this in the initial aims of interventions/programmes and factor

in consequent time and resources, this will impact on the sense that some facilitators/ practitioners have regarding a lack of time for effective intervention to support behaviour change. It should also be recognised that many community programmes take some time to get established and it is not uncommon for both participants and facilitators to feel that work has 'just got going' as the funding runs out (McGlone et al., 1999). This was recognised in the report on the Merseyside community healthy lifestyles intervention (Peerbhoy et al., 2008).

Other barriers identified were, lack of awareness related to lack of publicity for intervention; lack of support or sustained commitment by health practitioners; lack of support for individuals attempting to change behaviour from their families or communities.

Factors identified as promoting the success of an intervention included: working in partnership with other community groups and organisations; the potential for mainstreaming an intervention into existing services; the use of practical activities in addition to awareness raising and support; flexibility of an intervention in order to tailor activities to need; and the use of physiological measures (this was appreciated by participants as concrete evidence of their need to change).

Partnership working has the potential to contribute to the development of a stronger evidence base for the outcomes of behaviour change interventions and programmes. Boyce et al. (2008) recommend that PCTs and other providers should consider establishing partnerships with local

Universities to develop robust and relevant evaluation tools.

Other promoting factors recognised by some of the reports were: the provision of robust administrative support; changes which offered immediate, tangible benefits to participants; simplicity of the model of intervention from the point of view of both participants and facilitators; and the use of facilitators drawn from the local community.

The review of the reports largely confirms what is already known about the influences on the effectiveness of interventions and programmes to support increased physical activity, improved mental health and well being and food and nutrition. The value of having reviewed a number of local and regional initiatives (as well as some national initiatives) is in seeing that knowledge reflected in the successes and difficulties experienced by both facilitators and participants.

It should be acknowledged that some of the evaluation reports considered were more useful to the review than others perhaps because of weaknesses in the evaluation methods used or in the reporting of results.

The final section of the discussion draws on the findings of the review to respond to the specific questions that the review was designed to address (the final question that the review was designed to address has been reformulated as a separate recommendations section).

1. What are the optimum conditions to promote effective interventions and programmes to support increased physical activity, improved mental

health and well being and food and nutrition?

Interventions are more likely to be effective when they are planned in partnership with all stakeholders i.e. funding bodies, facilitators of the intervention, evaluators of the intervention and perhaps most importantly the local community in which the intervention will take place. Local people are best placed to understand the variety of factors that impact on their health and on their ability/opportunity to change health behaviours e.g. structural factors, social and cultural norms, socio-economic factors, perception of control over life events and circumstances and access to services. They will have insight into the range of interventions that would be viewed as acceptable and accessible (National Institute for Health and Clinical Excellence, 2007).

Interventions that are developed as partnerships with existing community groups and organisations are also thought to be more effective, both in relation to acceptability and sustainability (Ellahi and Gregg, 2006).

Given the variety of factors that impact on people's ability and motivation to engage with health behaviour change or improvement in well being, programmes that employ multifaceted approaches to encouraging and supporting change are likely to be more successful (TNS Social, 2006).

The ways in which interventions and programmes are funded impacts on their success. McGlone et al. (1999) discuss the need for funding bodies to ensure that the outcome measures that they specify and link to funding are appropriate to the context in which

projects operate. It is important that the outcomes of interventions relate to the risk factors which impact on health and to the health behaviours that relate to those risk factors. However these are complex in nature and it will not always be possible to impact on them over the timescale of a short-term project (less than 6 months). This is particularly so for health outcomes that might be socially determined (Colman and Emanuel, 2008).

2. Is there sufficient evidence on the factors or criteria used to determine levels of successful adoption and impact of interventions and programmes?

The reports generally gave clear overall aims for interventions, often accompanied by more specific objectives, and also identified metrics for the evaluation of the intervention. This provides some indication of whether or not the intended aims were met and the reports largely identify factors that have facilitated or inhibited this. This review has identified common factors across the three areas. However it is difficult to know if this information is sufficient to determine levels of successful adoption and the impact of interventions in contexts other than those of the reported programmes

It is important that evaluation processes which are developed are able to identify the successes and failures associated with an intervention. The National Institute for Health and Clinical Excellence (2007) state that time and resources should be set aside for evaluation and that the size and nature of the intervention along with underpinning theory should determine the evaluation strategy.

Campbell et al. (2000) and Rychetnik et al. (2002) also identify that the theoretical basis of an intervention impacts on the credibility of outcome measures developed for evaluation. The theoretical basis for most of the included reports was not clearly stated. Rychetnik et al. (2002) discuss the range of outcomes that should be developed to ensure that adequate evidence about the intervention is evaluated. The outcomes should encompass the interests of all stakeholders including those involved in delivering the intervention and those affected by it, unanticipated as well as anticipated effects of the intervention and efficiency (cost-effectiveness) of intervention. For the majority of the reports reviewed it was unclear how the aims and outcomes had been developed and unanticipated effects and cost-effectiveness were not generally included as outcomes. With regard to evidence to determine levels of adoption and impact of an intervention it is important to have information about the transferability of that evidence through descriptive accounts of the nature of an intervention, the context in which it was delivered, characteristics of those who benefited from the intervention and those who did not and the interactions that occur between the intervention and its context. Much of this information was provided in many of the reports but few of them explored the reasons for non-engagement in any detail and the impact of the context on the intervention and vice-versa was not really addressed.

3. *What level of synergy is there across the three policy areas in relation to effective interventions and programmes?*

A number of factors were identified as contributing to the success of interventions in all three areas, as indicated earlier in the report. Partnership working with other community groups and organisations (with respect to support, publicity and the potential for mainstreaming an intervention into existing services) was important to the sustainability of interventions. The use of practical activities in addition to awareness raising and support was seen as an effective way of engaging people with interventions, and the use of a range of different activities was also seen as beneficial. Interventions that were seen as flexible by participants in relation to responding to their circumstances and needs seemed to evaluate positively. Whilst physiological changes may not always be feasible outcomes for some short-term interventions, participants in programmes often valued physiological measurement as concrete evidence of their need to change. Other promoting factors recognised by some of the reports were: the provision of robust administrative support; changes which offered immediate, tangible benefits to participants; and simplicity of the model of intervention from the point of view of both participants and facilitators. The use of facilitators drawn from the local community was seen as an important factor impacting on the success and sustainability of many of the food and nutrition and physical activity programmes. In contrast, participants and organisers of some of the mental health and well being programmes reported that the use of facilitators external to the

community and the service was felt to be an important element in promoting social inclusion.

4. How can we know an intervention has made a difference long term?

Many of the reports focussed on relatively short term interventions although some were longer term i.e. 2-3 years (TNS Social, 2006; Emanuel, 2007). Findings from these evaluations indicate some general change in behaviour relating to the intervention, but in one (TNS Social, 2006) similar change is identified over the same period of time in a control group. There is recognition that it can be difficult to attribute behaviour change to an intervention in the longer term as it is impossible to control for all variables that might impact on health behaviour. In addition, when interventions are aimed at a community or a population it should be recognised that populations can change (Colman and Emanuel, 2008). This has implications for the flexibility that needs to be built into both intervention and evaluation planning. Rychetnik et al. (2002) advise that evaluation designs should be sequenced to the stage of development that a programme has reached.

5. What is the link between self reports and objective evidence in the three policy areas?

Within the reports the objective evidence, particularly when related to physiological measures often indicated minor or no change over the time period of the intervention and, where evaluated, beyond this period. In contrast some of the self report evidence suggested that individuals had made changes, although more commonly the self report data related to intention to change or changes in sense of well being. This sense of well being was related to feeling generally better, having more social contact, or having increased confidence and self esteem. Improvement in well being seemed to be a common short-term outcome which was captured largely through self-report. This may well be a significant finding in that this improvement in well being may be, for some people at least, an important precursor to change or intention to change aspects of health behaviour. In planning evaluations it might be valuable to consider improvement to well being as one of the shorter term outcomes to be measured. It may be unrealistic to use some of the more objective measures e.g. physiological measurement in the short term (Peerbhoy et al., 2008) given the complexity of the process of behaviour change.

6. How can self reports be supplemented by objective reports to measure change and provide evidence to improve the robustness of self reports?

For completeness of evidence it is important that an evaluation of behaviour change or improvement in well being captures both quantitative and qualitative data and uses both objective and subjective tools of data collection (Campbell et al., 2000; Health Development Agency, 2001; Rychetnik et al., 2002).

It is important to match the evaluation to the stage of development of the intervention and different types of data may be relevant to different stages. Some interventions can take

as long as 2 years to become up-and-running (McGlone et al., 1999). Two of the reports reviewed identified that the behavioural goals that formed part of the aim of the intervention needed longer than the timescale of the project to be achieved (Drummond and Raiswell, 2008; Peerbhoy, 2008) although awareness-raising and intention to change were positive self-reported successes of these two projects. For evidence about the effectiveness of an intervention to have credibility it must relate realistically to what might be possible to achieve in the timescale of the intervention. It may be that short term projects (6 months or less) cannot credibly be evaluated through anything other than self report data. It is likely that for longer term projects, more objective measures of actual change, which might incorporate some physiological measurement, would be appropriate. It would be valuable for the evaluation then to link, perhaps by tracking changes for individuals, related self-report and objective data, for example, self-reported increased fitness levels with improved recovery heart rate, self reported increased physical activity and healthier diet with reduction in waist circumference, self-reported improvements in well being with improved scores on a validated questionnaire or scale.

7. What are people actually reporting in self reports?

The self reports tend to relate to aspects of well being as indicated above and include general comments in relation to the three areas for example, increased fruit and vegetables in diet, reduced stress, increased levels of physical activity.

Some self-report information provides more detailed information on what these general comments mean specifically for some people.

8. What is the validity of the self reports?

The self report information in the reports was collected by questionnaire and by individual and group interviews. The questionnaires used are either validated tools for example, SF36 general health questionnaire or tools designed specifically for the intervention. Self-report data tends to be collected by the evaluators of the intervention or by the facilitators and is collected during and/or at the end of the programme. In one of the food and nutrition interventions self-report data was collected 6 months after the end of the intervention, although this was an exception. The design of the data collection tools, the way in which they are administered to participants, who administers them and when, will all impact on the validity of the data collected.

It is important that tools/methods used to collect self-report data for evaluation are designed at the planning stage of the intervention in relation to process, short-term outcomes, and longer term indicators of success where appropriate (Health Development Agency, 2001; Rychetnik et al., 2002). These tools should be developed in partnership with all stakeholders including members of the local community who will take part in the intervention.

Recommendations

The following recommendations are based on the literature included in this review. The NHS and other key stakeholders should consider these recommendations in order to facilitate increased uptake of interventions and programmes to promote physical activity, mental health and well being and food and nutrition:

- Consider utilising guidance on health insight (Department of Health, 2008a) to effectively target different sections of the population at the same time in relation to health improvement programmes

- Rather than continuing to carry out large numbers of small scale, short term interventions it might be more effective and efficient to deliver longer term, larger scale programmes related to physical activity, food and nutrition and mental health and well being to different sections of the community in different ways at the same time (Oldham NHS Primary Care Trust, 2007). These could be developed utilising underpinning theoretical frameworks, information from health insight intelligence and most importantly the communities themselves (National Institute for Health and Clinical Excellence, 2007; Caraher, 2008; Department of Health, 2008a)

- The outcomes identified for the programme should include:

  o Process outcomes, related to what will be delivered, who will deliver it, who will participate in it, when it will be delivered and how it will be delivered. The cost-effectiveness of the programme should be addressed through process outcomes

  o Short-term impact outcomes, related to the immediate benefits of the intervention, for example improved well being

  o Longer term indicators of success related to behavioural goals and other measures of change (Health Development Agency, 2001; Rychetnik et al., 2002; Campbell et al., 2000)

- A range of methods should be used to collect qualitative and quantitative data for all outcomes (Health Development Agency, 2001; Rychetnik et al., 2002; Campbell et al., 2000)

- The evaluation of any intervention or programme should be included as part of the planning stage, and all stakeholders, including the different population groups taking part in it, should contribute to the development of the evaluation strategy (National Institute for Health and Clinical Excellence, 2007)

- There should be recognition that the intervention and evaluation need to have elements of flexibility to be able to respond to the changing needs that may arise as a result of the impact of the intervention on the context and vice versa (McGlone et al., 1999; Rychetnik et al., 2002; Colman and Emanuel, 2008)

- Programmes should be planned to include ways of addressing some of the structural barriers to the behavioural outcomes developed for the range of interventions that make up the programme for example, working with food retailers as part of a programme to improve food and vegetable consumption by population groups or encouraging organisational change to facilitate the increase use of outdoor space.

Appendix A – Call to participate

Dear_____

As you may be aware we (University of Salford) have been commissioned by NHS North West to undertake a (grey) literature review. I am managing the project locally. The aim of the review is to identify factors that impact on the success of behaviour change interventions (and programmes) in relation to three policy areas. These are physical activity, food and nutrition and mental health and well being (we recognise that these three areas are closely related and impact on each other). We hope to synthesize the information from the review and provide practical recommendations that can contribute to the effectiveness of future interventions and programmes in the three policy areas with the aim of improving health outcomes and reducing inequalities. The literature review will be delivered in the form of a report to NHS Northwest and may be used as the basis for further work.

It is important that the review considers a range of different interventions and programmes and, while we will consider a wide range of information, we are particularly interested in accessing information on smaller scale, local interventions and programmes in order to try and gain a representative overview of the contexts and conditions that promote sustainable behaviour change. To this end we are seeking information from you to help us to answer the following questions:

1. What interventions and strategies can support people and communities to make positive changes in relation to food and nutrition, physical activity and mental health and well being?

2. What factors enable that change to be sustained and to become an integral part of health behaviour?

We would like this information in the form of a written report (electronic or paper). This may have been sponsored by your organisation, or it may have been produced for your own organisation, your sponsoring organisation and/or partner organisations. Alternatively, you may be aware of key work in this field (over-and-above 'scientific' studies). Reports should include ideally:

- An intervention or programme within one or more of the three policy areas

- An evaluation of that intervention (using objective measures, self report or a combination of the two), or some other assessment of impact/sustainability.

- It would be of value (but not essential) if the report covered at least some of the following:

- The population group targeted by the intervention

- The purpose and aim of the intervention

- The indicators developed to measure the success of the intervention

- Who was responsible for leading the intervention

- The timescale over which the intervention was used

- How the intervention was evaluated

- Who carried out the evaluation

- The reason for the type of evaluation completed

- How the cost effectiveness of the evaluation was assessed

- Identified facilitators of and barriers to the success of the intervention

- What happened next.

Please send any relevant literature to me, either electronically or by regular mail, to the address below, before 2nd February 2009. The timescale for the report is very short with a mid-February delivery date.

Thank you in anticipation for you contribution to this important work.

With best wishes

Appendix B – Search strategies

CINAHL

((MH "Physical Activity") or (MH "Eating Behavior") or (MH "Mental Health"))

and

((MH "Public Health") or (MH "Health Promotion"))

and

(MH "United Kingdom")

Published Date from: 199901-200912

Language: English

MEDLINE

Database: Ovid MEDLINE(R) <1996 to January Week 1 2009>

Search Strategy:

1   Exercise/ (33513)

2   Feeding Behavior/ (13224)

3   Mental Health/ (7025)

4   Health Promotion/ (23471)

5   Public Health Practice/ (2515)

6   1 or 3 or 2 (53378)

7   4 or 5 (25724)

8   6 and 7 (2244)

9   limit 8 to (english language and yr="1999 - 2009") (1841)

10   Great Britain/ (73933)

11   10 and 9 (82)

References

Ashley A and Bartlett H (2001) An evaluation of a walking scheme based in primary care: the participants' perspective. Primary Health Care Research and Development. 2: 98-106.

Blank L, Grimsley M, Goyder E, Ellis E and Peters J (2007) Community–based lifestyle interventions: changing behaviour and improving health. Journal of Public Health 29:3, 236-245.

Bolton PCT (2008) Happy Healthy Toddler Programme Report. Bolton: Bolton PCT.

Boyce T, Robertson R, Dixon A (2008) Commissioning and Behaviour Change. Kicking Bad Habits final report. London: The King's Fund.

Burgess-Allen J (2008) Mums in Art. Qualitative Evaluation Report. Stockport: Stockport PCT.

Campbell M, Fitzpatrick R , Haines A, Kinmouth AL, Sandercock P, Spiegelhalter D and Tyrer P (2000) Framework for design and evaluation of complex interventions to improve health. British Medical Journal. 321, 694-696.

Caraher M (2008) Food and Health Promotion: Lessons from the field. Health Education Journal 67(1), 3-8.

Carnegie Research Institute (2007) The national evaluation of LEAP: Final report on the National Evaluation of the Local Exercise Action Pilots. London: Department of Health.

Cole R (2009) Pathways to Employment Ellesmere Port and Neston. Personal correspondence received on 27th January 2009.

Colman S and Emanuel J (2008) The Best of Zest: Evaluation for Health and Sustainability. Manchester: NHS Manchester.

Creative Research (2007) Physical Activity Brief Intervention: Evaluation of a pilot project. London: Creative Research.

Creative Research (2008) Activity for Life. Summary of Findings (Pre and post Activity for Life). London: Creative Research.

Cross Links (2008) Project Evaluation Cross Links young adults group rap project. Knowsley: Knowsley Primary Care Trust and Knowsl@y Council: Knowsley

Dawson J, Boller I, Foster C and Hillsdon M (2006) Evaluation of changes to physical activity amongst people who attend the walking the way to health initiative (WHI). Cheltenham: The Countryside Agency.

Department of Health (1999) Saving Lives. Our Healthier Nation. London: DH.

Department of Health (1999a) National Service Framework for Mental Health: modern standards and service models. London: DH.

Department of Health (2000) The National Service Framework for Coronary Heart disease. Modern standards and service models. London: DH.

Department of Health (2004) Choosing Health. Making healthier choices easier. London: DH.

Department of Health (2004a) 5 A DAY. London: DH.

Department of Health (2005) Choosing Activity: a physical activity action plan. London: DH.

Department of Health (2005a) Choosing a better diet: a food and health action plan. London: DH.

Department of Health (2006) Small change big difference. London: DH.

Department of Health (2006a) Health Profile England. London: DH.

Department of Health (2007) Health Challenge England – next steps for choosing health. London: DH.

Department of Health (2007a) Health Profile England 2007. London: DH.

Department of Health (2008) Change4life. London: DH.

Department of Health (2008a) Ambitions for Health. A strategic framework for maximising the potential of social marketing and health-related behaviour. London: DH.

Dinan S, Lenihan P, Tenn T and Iliffe S (2006) Is the promotion of physical activity in vulnerable older people feasible and effective in general practice? British Journal of General Practice. 56: 791-793.

Drummond B and Raiswell C (2008) Tasty not Salty. Manchester: Manchester Joint Health Unit.

Dugdill L and Muirhead A (2007) Stepping Out: Wigan's Local Exercise Action Pilot (LEAP) Programme 2004-2006. Salford: University of Salford.

Dugdill L, Graham RC and McNair F (2005) Exercise referral: the public health panacea for physical activity promotion? A critical perspective of exercise referral schemes; their development and evaluation. Ergonomics. 48(11-14): 1390-1410.

Ellahi B and Gregg R (2006) Community Cooks Scheme Knowsley Evaluation Report. Chester: University of Chester.

Emanuel J (2007) More Fresh Evidence. Buying and eating fresh fruit and vegetables in food deserts in Manchester: The role of Herbie 1. Manchester: Manchester Joint Health Unit.

Fieldhouse J (2003) The Impact of an Allotment Group on Mental Health Client's Health, Well Being and Social Networking. British Journal of Occupational Therapy. 66(7): 286-296.

Friel P (2009) Report on Accredited Volunteer Training. Bury: Pennine Care Trust.

Health Development Agency (2001) Framework for Action – Supplement. Guidance on Evaluation. London: NICE.

Hine R, Peacock J and Pretty J (2008) Working the Land. Mental Health Today June: 23-26.

Hyland R, Stacy R, Adamson A and Moynihan P (2006) Nutrition-related health promotion through an after-school project: The responses of children and their families. Social Science and Medicine. 62: 758-768

INVOLVE (2007) Good practice in active public involvement in research. Eastleigh: DH.

Khan K (2005) Energize evaluation report: Learning together project. 17 February 2005. Oldham: Oldham PCT.

Khan K (2008) Himmat and Saharah Project Evaluation Report. Positive Well Being Sessions. Oldham: Oldham PCT.

Khan K (2008a) Himmat and Saharah Project Evaluation Report. Art Sessions. Oldham: Oldham PCT.

Malik S (2006) Evaluation Report on a One Year Pilot Physical Activity Project for Clients of a Community Mental Health Team in Manchester. Manchester: Manchester Public Health Development Service.

McAllister J and Chourbaji L. (2006) Get Alive, Get Active: Healthy Gorton Physical activity Project Report. Manchester: Central Manchester Primary Care Trust.

McClaughlin A and Walton L (2006) East Lancashire 5 A DAY community initiative 2003-2005 summary report. Accrington: Hyndburn and Ribble Valley PCT.

McGlone P, Dobson B, Dowler E and Nelson M (1999) Food projects and how they work. York: Joseph Rowntree Foundation.

Mentality (2003) Making it Effective: A guide to evidence based mental health promotion. Radical mentalities-briefing paper 1. London: Mentality.

National Institute for Health and Clinical Excellence (2006) Four commonly used methods to increase physical activity. Nice public health intervention guidance 2. London: NICE.

National Institute for Health and Clinical Excellence (2007) Behaviour change at population, community and individual levels. NICE public health guidance 6. London: NICE.

National Institute for Health and Clinical Excellence (2008) Mental well being and older people. Nice public health guidance 16. London: NICE.

National Institute for Health and Clinical Excellence (2008a) Promoting physical activity in the workplace. NICE Public health guidance 13. London: NICE.

Ogilvie D, Hamilton V, Egan M and Petticrew M (2005) Systematic reviews of health effects of social interventions: 1. Finding the evidence: how far should you go? Journal of Epidemiology and Community Health. 59: 804-808.

Oldham NHS Primary Care Trust (2007) Food and Physical Activity Together Evaluation April 2005-March 2007. Oldham: Oldham NHS PCT.

Oxford Brookes University (2007) BTCV Green Gym® National Evaluation Report: Summary of Findings. Oxford: Oxford Brookes University.

Oxford Brookes University (undated) Green Gym® research summary – An evaluation of the Green Gym® pilot in Sonning Common, Oxfordshire, 1999 and an evaluation of the BTCV Green Gym® at Portslade, East Sussex, April 2002. Oxford: Oxford Brookes University.

Peerbhoy D, Majumdar AJ, Wightman NA, and Brand VL (2008) Successes and challenges of a community healthy lifestyles intervention in Merseyside (UK) to target families at risk from coronary heart disease. Health Education Journal 67(2) 134-147.

Phillips D, Hagan T, Bodfield E, Woodthorpe K and Grimsley M (2008) Exploring the impact of group work and mentoring for multiple heritage children's self esteem, well being and behaviour. Health and Social Care in the Community. 16(3): 310-321.

Raisbeck M (2008) Sing for your Life Project Evaluation. Workforce singing project. Knowsley: Knowsley Primary Care Trust and Knowsl@y Council.

Rankin D, Truman J, Backett-Milburn K, Platt S and Petticrew M (2006) The contextual development of healthy living centre services: An examination of food-related initiatives. Health & Place. 12: 644-655.

Roe L, Hunt P, Bradshaw H, Rayner M (1997a) Health promotion interventions to promote healthy eating in the general population – a review. London: NICE.

Rychetnik L, Frommer M, Hawe P and Shiell A (2002) Criteria for evaluating evidence on public health interventions Journal of Epidemiology and Community Health. 56: 119-127.

Sharman K and Wickett J (2008) Evaluation report of franchise of SHINE programme to Oldham Community Health services. Oldham: Oldham Community Health Services.

Stacey G and Stickley T (2008) Dancing to keep young@heart. Mental Health Practice. 11(6): 34-38.

The Countryside Agency (2005) Walking the way to health 2000-2005: Summary of local health walk evaluations. Cheltenham: The Countryside Agency.

Tilford S, Delaney F and Vogels M (1997) Effectiveness of mental health promotion interventions: a review. NICE: London.

TNS Social (2006) Evaluation of the 5 A DAY Programme. Final Report London: Big Lottery Fund.

Towers A, Nicolson G and Judd P (2005) Evaluation of the Food Co-operative Groups established by the Rural Regeneration Unit Cockermouth, West Cumbria. University of Central Lancashire: North West Food and Health Task Force.

World Cancer Research Fund & American Institute for Cancer Research (2007) Food, Nutrition and the Prevention of Cancer: A Global Perspective. Washington DC: AICR.

Y active (2008) Y Active GP Exercise Referral Programme and MEND Quarterly Report April-June 2008. Lytham St. Annes: Y Active.

Y active (2008a) Y Active GP Exercise Referral Programme and MEND Quarterly Report July-September 2008. Lytham St. Annes: Y Active.