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Schemes to promote healthy weight among obese and overweight children in England

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EPPI-Centre report no. 1607 · August 2008

SSRU Social Science Research Unit

REPORT

The results of this work are available in two formats:

REPORT	Includes the background, methods and main findings
DATABASE	Access to data we collected. Users are able to search the database to run their own reports

These can be downloaded or accessed at **http://eppi.ioe.ac.uk/mapchildobesityen**

The authors of this report are Catherine Aicken, Lisa Arai and Helen Roberts. All were at the EPPI-Centre, Social Science Research Unit, University of London, at the start of this work; at completion, Lisa Arai was at the Open University and Catherine Aicken was at University College London.

Acknowledgements

We are grateful to the members of the advisory group and other members of the EPPI-Centre Health Promotion and Public Health reviews facility, in particular Angela Harden, Josephine Kavanagh, Ann Oakley and Jenny Woodman, for helpful advice; to Jeff Brunton for expert support with EPPI-Reviewer; to Sylvia Potter for copy-editing; Philip James Rose for typesetting; Sergio Graziosi for computing support; and to Chloe Austerberry and Claire Stansfield for administrative support.

We also acknowledge Christine McGuire from the Department of Health and Gill Moffett and Suzanne Turnock from the Cross-Government Obesity Unit for their help with making contacts and their timely responses to queries. The regional obesity leads in England and those involved in providing schemes are acknowledged for their enthusiastic and helpful responses.

The work described in this report was undertaken by the EPPI-Centre, which receives funding for a specific programme of work from the Department of Health, England. The views expressed in this work are those of the authors and do not necessarily reflect the views of the funder. All errors and omissions remain those of the authors.

Conflicts of interest

There were no conflicts of interest in the writing of this report.

The EPPI-Centre reference number for this report is 1607.

This report should be cited as: Aicken C, Arai L, Roberts H (2008) Schemes to promote healthy weight among obese and overweight children in England. Report. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

ISBN: 978-0-9559087-3-6

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List of abbreviations

BME	Black and minority ethnic
BMI	Body mass index
DCSF	Department for Children, Schools and Families
DH	Department of Health
GP	General practitioner
HELP	Healthy Eating Lifestyle Programme
LA	Local authority
MEND	Mind, Exercise, Nutrition … Do it
NHS	National Health Service
NICE	National Institute for Health and Clinical Excellence
PCT	Primary Care Trust
PSA	Public Service Agreement
RCT	Randomised controlled trial

Summary

- The government has identified obesity as a priority, and there is considerable policy interest in the UK and internationally in tackling the problem of overweight and obesity in children and young people. However, assembling a picture of activity in this area has been problematic.
- This report and the associated searchable database[1] summarise those schemes in England for which we were able to obtain data. In order to be included in the database, schemes needed a primary focus on tackling overweight or obesity in school-age children (4-18 years) who were already overweight or obese, through dietary, exercise or other means. Included interventions had to be structured and sustained over a period of time.
- Priority questions were identified with officials from the Cross-Government Obesity Unit and information about schemes meeting our inclusion criteria was collected. This included data on the content and running of the scheme, as well as what monitoring or evaluation had taken place. Evaluation reports were requested, where applicable.
- Data were collected using web searches and an online survey was posted on relevant JISCmail mailing lists. Contact was made with obesity leads and those running schemes via email, telephone, and face to face.
- Some of the schemes aimed at tackling childhood obesity are small, local ones but others run at a number of sites across the country. Our best estimate on the basis of data retrieved is that at any one time, between 314 and 375 schemes meeting our criteria are running in England.
- This report is one of the first outputs from a review series on childhood obesity currently being undertaken by the EPPI-Centre as part of a larger programme of work on health promotion and public health reviews funded by the Department of Health, England. The map of schemes described in this report was undertaken alongside a map of review-level evidence on the effectiveness of social and environmental interventions for childhood obesity (Woodman et al. 2008). The next report, due for publication in 2009, will describe a systematic review of research on children's views relating to obesity (see Rees et al. 2008 for the protocol).

[1] http://eppi.ioe.ac.uk/mapchildobesityen

CHAPTER ONE

Background

Both internationally and in the UK, there is widespread concern about rising rates of overweight and obesity and the consequences of this for individuals, for population health and for the wider society. This concern is not yet matched by either a clear map of interventions provided for children and young people or a robust evidence base on the effectiveness of interventions. The potential range of such interventions is very wide, with sound evaluation facing both methodological and practical challenges.

The chronology which follows demonstrates the policy interest in childhood overweight and obesity in the UK over the last few years.

In 2004, the UK government identified obesity as a policy priority and set targets to halt the year-on-year rise in childhood obesity by 2010 (HM Treasury 2004).

In 2006 the National Institute for Health and Clinical Excellence (NICE) published guidelines on the prevention, identification, assessment and management of overweight and obesity in adults and children. These guidelines contain recommendations for the public, the NHS, local authorities (LAs) and partners in the community, which can be put into practice in early-years settings, schools and workplaces, and in self-help, commercial and community programmes. Some of the recommendations are at a strategic level, while others are at delivery level. The types of factors and interventions covered range from individual to environmental and structural levels (NICE Public Health Collaborating Centre 2006).

In 2008, the government established the Cross-Government Obesity Unit, jointly led by the Department of Health (DH) and the Department for Children, Schools and Families (DCSF), and published guidance for local areas on tackling obesity and achieving healthy weight in the population (Cross-Government Obesity Unit et al. 2008). The guidance is aimed at Primary Care Trust (PCT) and local authority (LA) managers, and frontline staff including health visitors, planners, teachers and GPs. It suggests ways in which local partners can develop plans, set local goals and choose interventions. The guidance highlights other public policy priorities that may share goals with healthy weight policies, and encourages a multi-agency approach between PCTs, LAs and partners in the private and third sectors. Agencies are encouraged to focus on the whole family, adopt an early identification and intervention approach to children at high risk of unhealthy weight, and use a broad range of targeted, population-level and structural interventions for healthy eating and physical activity to address the issue.

1.1 Reviews of the evidence

A number of reviews on obesity and overweight were conducted between 2003 and 2006. NICE published an evidence briefing for its guidelines on obesity and overweight using review-level evidence, and Summerbell and colleagues published two Cochrane reviews investigating the prevention and treatment of obesity and overweight in children using primary evidence (NICE Public Health Collaborating Centre 2003, Summerbell et al. 2003, Summerbell et al. 2005). All three reviews focus on lifestyle and behavioural interventions to prevent and treat obesity and overweight.

In addition to these, the UK Government's Foresight team recently published a report based on a series of evidence reviews which investigated the obesogenic environment, lifestyle changes and international comparisons of obesity trends and determinants (Butland et al. 2007).

Once a social or health phenomenon has been identified as a problem and is targeted for intervention, it is common for a great deal of activity to be initiated and for projects to proliferate on the ground. Policy and funding drivers have led to a growth in the number of local schemes set up to address overweight and obesity.

This is the background against which we were asked by the Department of Health to start to map interventions.

This report and associated database provide a summary of ongoing and recent activity.

Ethics approval was provided through the Institute of Education, University of London.

CHAPTER TWO

Aims and methods

This part of the report describes the way in which we went about our work identifying and analysing data from schemes to address overweight and obesity in children.

2.1 Aims

The overall aim of the work described in this report was to identify and describe schemes which promote weight loss/healthy weight in children and young people who are overweight or obese, and to develop a searchable online database of these schemes.

2.2 Methods

As Box 2.2 describes, in order to be eligible for inclusion in this report and the database, schemes needed to be:

- in England;
- directed towards overweight and obese children and young people aged between 4 and 18;
- delivering a structured intervention, sustained over a period of weeks;
- and have attainment of a healthier weight as a central aim for participants.

For the purposes of this exercise, we did not include:

- brief interventions, such as one-off advice from a health professional;
- universal programmes aimed at children of all weights; and
- programmes directed at children at risk of, but not currently overweight.

We used a mapping approach, building on work previously carried out by the research team and colleagues on other topics, including mapping sexual health projects (Arai et al. 2006) and the use of incentive schemes to encourage positive behaviours in young people (Trouton et al. 2005).

Given the unknowns in a piece of work of this kind, where a trade-off frequently has to be made between timeliness, breadth and coverage, measures were put in place to ensure that the report and database would be delivered on time. Priority questions, among the much larger universe of questions to which we were seeking answers, were identified with officials from the Cross-Government Obesity Unit and the research commissioner; multi-site schemes, where they had a common programme, were included as a single entry in the database.

There were four stages to the work:

- identification of schemes for possible inclusion (see Box 2.1);
- screening of schemes for inclusion;
- coding (data extraction) of included schemes;
- analysis.

The processes we used to carry out each of these stages are described below, while some of the challenges we faced are described in the discussion section at the end of this report.

2.2.1 Identification of schemes

Box 2.1 Identification of schemes

The data collection period was January to March 2008. Schemes were identified through the following six routes:

1. Cross-Government Obesity Unit contacts:

Cross-Government Obesity Unit colleagues provided us with a list of multi-site programmes implementing schemes for overweight and/or obese children and young people in England. These were: WATCH IT!; Traffic Light programme; MEND; and Carnegie Weight Management. These schemes were asked for information about their programmes, local initiatives using their models, and details about which features of their programme were common to all locations and which might vary by location.

2. Email contacts:

After officials from the Cross-Government Obesity Unit had identified England's 10 obesity leads and informed them of our work, contact was made with them by email. They were asked to provide:

- names, and if possible a brief description, of programmes targeted at overweight/obese children and young people in their region;
- details of mapping exercises including this kind of programme undertaken at regional level;
- documents or web links, and contact details for schemes and mapping exercises.

The regional obesity leads were asked to confirm their contact details, and to let us know whether we could contact them again if required.

3. Web-based requests for information, via an online questionnaire:

JISCmail (National Academic Mailing List service) is subscribed to by research, teaching, learning and practitioner readerships. Emails were sent to the mailing lists that we identified as likely to be subscribed to by people with an interest in overweight and obesity amongst children and young people (see Appendix 6 for the lists used). The message described our mapping exercise and contained a web link to an online questionnaire. It was posted in January 2008 and responses to the questionnaire were downloaded until late March 2008.

The online questionnaire invited the same information we had asked for from regional obesity leads (information about schemes and mapping exercises, respondents' names, roles and contact details, and whether they were happy to be contacted again). Moderators posted our questionnaire on closed lists on our behalf, and recipients forwarded it to other mailing lists including the Association for the Study of Obesity (ASO) and REACH Network (Research into Adolescent and Child Health in the Cambridge, North London and Hertfordshire regions).

4. Request for information in Evidence Network newsletter:

A request for information on schemes, and a related research request, appeared in the January 2008 newsletter of the Evidence Network.

5. Web search:

A simple web search was undertaken for programmes for children and/or teenagers/adolescents, using the Google and Google Scholar search engines. There were several thousand hits, and the first 100 were looked at in detail. A high proportion related to commercial diet plans or products for adults (with the word 'children' often included since they typically included stories of women gaining weight after having children). Since it was not possible within our timescale to review all of these sites systematically, after identifying a number of schemes in this way, the search was terminated.

6. Grey and other literature:

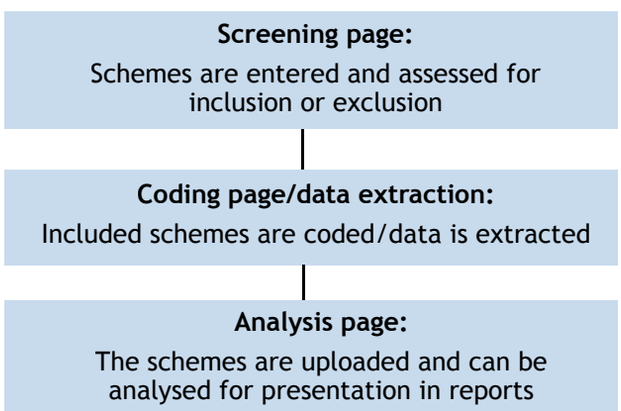
Documents sent to us, or encountered while searching for further information, enabled us to identify further schemes opportunistically.

2.2.2 Screening for inclusion

Details of schemes were stored in EPPI-Reviewer. This web-based tool was developed by the EPPI-Centre for storing and analysing data for systematic reviews (Thomas and Brunton, 2006). While it was designed for the analysis of journal articles and reports, in this case, we used it to store and run reports on schemes addressing overweight and obesity in children.

Scheme details were entered into EPPI-Reviewer with contact and other information. The stages for the population of the database are shown in Figure 2.1.

Figure 2.1 Stages in the EPPI-Reviewer database



Once in EPPI-Reviewer, schemes are initially displayed on a screening page, where they are assessed for inclusion or exclusion.

On occasion, the initial information we had about a scheme enabled us to decide whether to include or exclude it. In other cases, one or more issues (for example, the target age group) needed to be investigated further before a scheme could be included or excluded from the database. In these cases, further details were searched for online, or an email was sent to the contact person for the scheme.

These scheme contacts, publicity and reports, including evaluation reports, were additional sources of information used to assess whether or not a scheme met our inclusion criteria.

The inclusion and exclusion criteria described in Box 2.2 were applied to all schemes entered into the database.

Box 2.2 Inclusion and exclusion criteria

Focus and type of scheme:

Including:

Healthier weight as a central aim for participants (though aims might also include other health or related outcomes) by:

- dietary;
- and/or exercise;
- and/or other means.

Age group/range scheme targeted at:

- children and young people (defined as 4-18 years old);

Weight status of service users:

- obese (including morbidly obese);
- and/or overweight.

Excluding:

- universal programmes aimed at children of all weights;
- programmes directed at those 'at risk' of overweight (e.g. children who are inactive, or children of obese parents).

Type of intervention:

Including:

- structured, sustained interventions.

Excluding:

- brief interventions with a health professional in relation to diet and/or exercise.

Geographic location of scheme:

2.2.3 Coding (data extraction) of schemes

The development of the coding framework (see Appendix 1) occurred in several stages and entailed extensive discussion about the kind of information that would be useful to the DH, to the Cross-Government Obesity Unit, to practitioners running schemes and to other interested groups. Apart from basic data about the name, location and contact details of schemes, information was extracted and coded on the size of schemes, their major components, key descriptive characteristics of each scheme, funding sources and details of

any monitoring or evaluation undertaken. Priority questions, described in Table 2.1, were identified with officials from the Cross-Government Obesity Unit and the research commissioner. While our aim was to gain comprehensive information on all included schemes, additional effort was made to try to ensure that these priority sections of the framework were as complete as possible. Documents, websites and publicity about the schemes were used to begin coding, and information on a scheme's stated objectives or the outcomes measured in the monitoring/evaluation document, if any, was taken from scheme literature. However, in virtually all cases it was necessary to approach scheme contacts, where these were available, to obtain information on unanswered priority questions and to request evaluation or monitoring reports.

Table 2.1 Priority questions

Scheme objectives
Components (what does the scheme involve?)
Key partner organisations
Funding sources, including contributions in kind
Duration
Age group
Weight-related admission criteria
Main referral route
Capacity (number of children per year in most recent year)
Has monitoring/evaluation data been collected?
Is the scheme still running?
Outcomes measured in the monitoring/evaluation document

After screening, schemes meeting the inclusion criteria were transferred to a coding page in the EPPI-Reviewer database (see Figure 2.1). Guidance was taken from health promotion review guidelines developed in the EPPI-Centre (Peersman et al. 1997).

2.2.4 Analysis

After the coding stage, details of the schemes were uploaded for analysis in the EPPI-Reviewer database. The analysis we carried out was largely descriptive, focusing on the priority questions described above. Multi-site schemes with a common programme were treated as a single scheme.

CHAPTER THREE

Results

The database[2] holds 51 records of different schemes – details can be found in Appendix 2. Some of these operate across multiple sites and/or with multiple intakes per year. Where multi-site schemes had a common programme, they were included as a single entry in the database and treated as a single scheme in the analysis. The list of schemes in the database also provides web links and details of reports on the schemes where we have been able to identify these. Some of them operate across multiple sites and/or with multiple intakes per year. Of the 51 schemes, 42 are **still running**[3] or about to begin, three are no longer running and the status of the remaining six is unknown. On the basis of the data we have collected, we estimate that there are between 314 and 375 local schemes running in England at any one time.

The schemes covered in this mapping exercise are not the only type of provision for obese/overweight children and young people. For instance, in many areas there are activity schemes which are open to children of a healthy weight and those who are overweight/obese. These did not meet our inclusion criteria but may still be useful for helping overweight/obese children to manage their weight.

Our main results start with a short description of the schemes that the Cross-Governmental Obesity Unit was already aware of. Information on process issues, such as how we identified the schemes, follows.

3.1 MEND, Carnegie Weight Management, WATCH IT! and the Traffic Light Programme

MEND (which refers to 'Mind, Exercise, Nutrition, Do it') is the largest programme currently operating in England. It offers behavioural change techniques designed to help parents improve their children's overall diet and activity patterns; an exercise programme for children who do not naturally like to exercise; and healthy nutrition guidelines. It operates with around 250 schemes across the country, rising to an estimated 310 by the end of 2008. MEND Central provides training and resources to those who buy into and deliver the scheme at a local level. These local schemes provide monitoring information to MEND Central. MEND is being evaluated using a randomised controlled trial (RCT) design. Our contact at MEND explained that the model is delivered similarly between sites. However, depending on funding streams, some sites are required to continue to provide physical activity sessions for programme graduates, whereas for others this is optional.

Carnegie Weight Management essentially runs three different models, listed in order of increasing intensity of intervention:

- Clubs, which run for a term on a similar basis to MEND and to many of the other schemes in our database;
- Day Camps, which run during school holidays;
- Residential Camps, which also run during school holidays.

According to Carnegie Weight Management staff, even the least intensive interventions (Carnegie Clubs) are quite resource- and staff-intensive. Though Carnegie Weight Management staff and

2 http://eppi.ioe.ac.uk/mapchildobesityen

3 Priority questions (see Table 2.1) are marked in bold in the narrative text of this report, and marked with an asterisk (*) in the database.

students are very much involved in the delivery of many of their programmes, some of the programmes are franchisable. Carnegie staff also provide training to those who deliver their schemes.

WATCH IT! has been developed for obese children in disadvantaged areas. It is designed to be cheaper and deliverable by non-professionals who have undergone training. This scheme involves counselling and support, physical activity sessions and a structured approach based on the Healthy Eating Lifestyle Programme (HELP). WATCH IT! aims to encourage lifestyle change by taking a motivational enhancement and solution-focused approach, along with opportunity for physical activity. The programme has three components: frequent individual appointments (30 minutes, initially weekly) for the young person and parent for encouragement, support and motivational counselling, using the HELP manual to guide content delivery; group activity sessions lasting one hour, conducted weekly at a local sports centre; and group parenting sessions, once the individual appointments have reduced in frequency.

The Traffic Light Programme covers exercise, social support and healthy eating. All members of the family are encouraged to eat more healthily, be more active and support the child. It takes its name from the simple system it uses for categorising foods on the basis of their nutritional value and energy density. A key part of the programme is the psychology-based support and training offered to families, with parents' groups focusing on strategies for making changes to their families' behaviour. The programme was established at Great Ormond Street Hospital, and has been piloted in a community setting (Islington). As this report was being written, the final cohort of children in Islington were finishing the programme and reports will be available subsequently. The Great Ormond Street scheme is still running, and another community-based programme in Surrey is expected to begin later in the year.

All of these schemes are linked with university-based teams, who have been involved in the evaluation and (to varying extents) the development of the schemes. This characteristic is not limited to these four schemes, however. A number of other schemes are also multi-site and/or linked with universities.

3.2 Objectives and components of the schemes

Where the schemes' stated objectives were provided in documents or publicity about the scheme, we recorded these in the database. Over half (30 schemes – 59%) did not make their objectives explicit beyond a statement, for example, that they were weight management schemes.

One of our initial criteria for inclusion was that the scheme be focused on attaining a healthy weight, but it became clear that this may not be a realistic outcome for obese children in the short term. NICE guidelines, for instance, state that 'the aim of weight management programmes for children and young people may be either weight maintenance or weight loss, depending on their age and stage of growth'. Where stated, scheme objectives often included improving eating habits, promoting physical activity and addressing psychosocial issues such as increasing self-esteem or boosting ability to deal with bullying. Objectives for individual schemes, where we have them, can be found in the database.

Information and documentation were gathered about the scheme components from scheme contacts and from material in the public domain. These components are described in Table 3.1. All the schemes for which we have data include promoting physical activity (the provision of opportunities for physical activity, advice/information about physical activity, or both). Thirty-seven include behaviour change techniques, and 46 healthy eating (advice/information plus provision of healthy food/food preparation, or advice/information alone). Other components include supermarket/local shop tours, the provision of leisure centre passes, and psychosocial support (e.g. building self-esteem/confidence, coping with bullying, group activities to build social and communication skills, counselling/mental health support). The programme run by the Care of Childhood Obesity (COCO) clinic provides access to pharmacotherapy and bariatric (weight loss) surgery depending on the success of the basic lifestyle change programme.

Table 3.1 Main components: what does the scheme involve? (n=47 schemes)[4]

Components of the scheme (multiple responses possible)	**Number of schemes**
Behaviour change techniques	37
Advice/information about physical activity	45
Some form of physical activity	43
Advice/information about healthy eating	46
Healthy food preparation/cooking, and/or tasting/provision of food	19
Other, including supermarket/local shop tours, leisure centre passes and psychosocial support	18

In relation to the physical activity and dietary components, where information was available, the large majority of schemes involve a sports/exercise worker (ranging from leisure centre staff to exercise physiologists), and a dietician/nutritionist, sometimes supported by a community food worker. Table 3.2 describes the information we were able to collect from 26 schemes on workers involved in delivering the interventions.

[4] Where multi-site schemes had a common programme, they were included as a single entry in the database and treated as a single scheme in the analysis.

Table 3.2 Who delivers the main components of the intervention? (n=26)

Who delivers the main components of the intervention? (multiple responses possible)	**Number of schemes**
Sports/exercise worker	21
Health professional: dietician/ nutritionist	20
Health professional: school nurse	6
Health professional: other	7
Health promotion/education practitioner	1
Community worker	6
Psychologist	3
Counsellor	3
Parent	2
Teacher/lecturer	2
Peer	1
Researcher	1
Other	8

3.3 Key partner organisations and funding sources: who do the schemes work with and how are they funded?

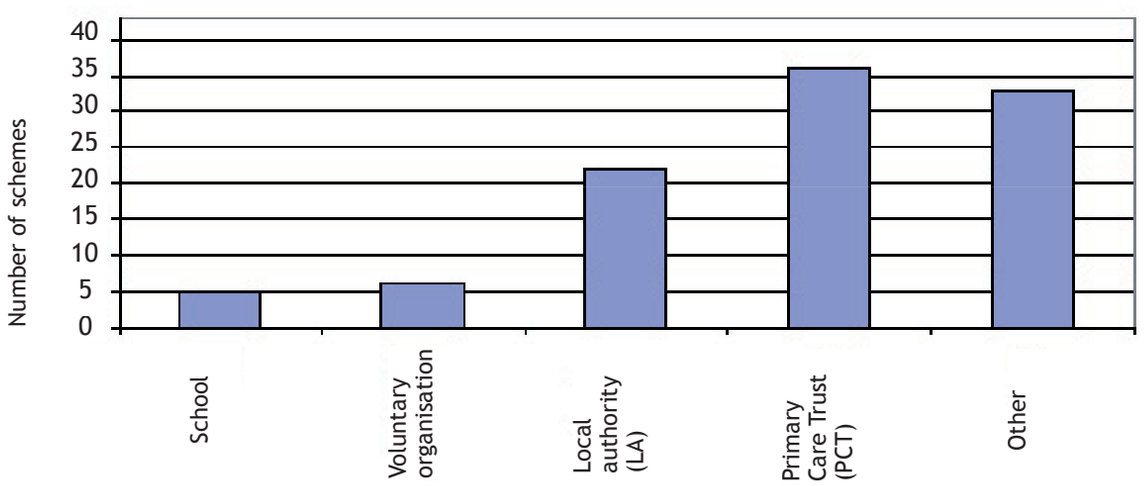
Information was found on **key partner organisations** for the majority of schemes (43), and these are shown in Figure 3.1 . Many schemes had more than one key partner. Most (36) involve a PCT, often in conjunction with a local authority (LA). Of the 43 schemes for which we had details of key partner organisations, 20 involved both a PCT and a local authority. Those categorised as 'other' key partners were most commonly a hospital or clinic, a leisure service provider, and in some cases, a university. Five involved schools as key partners, and six involved voluntary organisations. Rarely, other organisations such as supermarkets were involved.

We were able to identify **funding sources** for 28 of the schemes. These are shown in Table 3.3. These include contributions both in kind and otherwise, and were largely identified from the project literature, supplemented by scheme contacts. For those schemes on which we have data, funding mainly derives from PCTs and local authorities. 'Other' funding sources included Sport England (four schemes); and neighbourhood renewal, regeneration, or community funds (five schemes). The majority (six) of 'other' in-kind contributions included the use of the venues of other public or voluntary sector organisations.

Table 3.3 Funding sources for schemes (n=28)

Funding source (multiple responses possible)		**Number of schemes**
Direct funding	Department of Health	3
	Charity/voluntary organisation	7
	PCT	18
	LA	11
	Payment from family	6
	Other, including Sport England, neighbourhood renewal, regeneration, community funds	17
Contributions in kind	PCT	4
	LA	6
	School	3
	Other, including use of the venues of other public or voluntary sector organisations	8

Figure 3.1 Key partner organisations (n=43 schemes; multiple responses possible)



We were able to ascertain the **duration** of the core period of intervention for all but seven of the 51 schemes. We defined the core period as the period during which young people participated in the structured programme – as opposed to a less intensive follow-up period or booster sessions which might occur some time later. The core period for most schemes lasted between 10 and 12 weeks (27 schemes). MEND is ten weeks long, with one week for measurement and nine weeks of intervention. Carnegie International Day Camp lasts for between one and six weeks, and Carnegie Residential Camp, two to eight weeks. The Great Ormond Street Traffic Light Programme is of six months duration (as was the pilot in Islington), and WATCH IT! lasts between four and twelve months (four months plus increments of four months up to one year).

Only one of the 18 schemes for which details are known reported no follow-up. For the remaining 17, a less-intensive/less-structured form of the intervention was the most common follow-up. This included continued access to physical activity sessions or free leisure centre access, sometimes in combination with health education. Exit programmes or booster sessions were offered in some cases, and in one case, monthly follow-on sessions for parents. Some schemes offered continued access to support from programme staff. Signposting to opportunities for physical activity was also described.

Table 3.4 Duration of core period of the scheme (n=44)

Duration of the schemes' core period (average, based on most recent information)	**Number of schemes**
Two to six weeks	5
Seven to nine weeks	1
Ten to twelve weeks	27
More than twelve weeks	11

The **age range** of participants accepted in 45 of the schemes was identified. The number of schemes open to children of each age is shown in Figure 3.2. (See Appendix 3 for more detail of the age ranges accepted by each of the schemes included in the database.)

3.4 Weight-related criteria, referral and intake

For adults, overweight is defined as having a BMI above 25, and obesity a BMI above 30. However, for children, these measures are problematic since their expected weight-to-height ratio changes as they grow and develop. Instead, child growth charts are used which give BMI percentiles by age and sex. Having a BMI above the 91st percentile for the child's age and sex generally defines a child or young person as overweight, and above the 98th percentile, as obese, though NICE guidance acknowledges that these are pragmatic cut-offs. NICE guidance suggests that UK 1990 reference charts for age and sex be used, and that where weight-related criteria are specified by schemes, they use these charts. Since cut-offs for weight-related admission criteria are variable between schemes, it may be that there is some variation in the use of these charts.

Guidelines suggest that there is no current evidence for the diagnostic value of waist circumference in children. Although we found that some schemes monitored this for individual children, it was not reported as a criterion for participation.

We obtained weight-related admission criteria for 49 schemes. Twelve of them (shaded in Table 3.5) are exclusive to obese children and 37 (unshaded in the table) are open to overweight as well as obese children. Of the two schemes in Table 3.5 with 'other' weight-related admission criteria, one is open to those with a BMI above the 98th percentile for age and sex, and also to children with a BMI above the 91st percentile if places are available. The other is open to those with a BMI of above the 85th percentile for age and sex.

Figure 3.2 Number of schemes open to children or young people at each age (n=45 schemes)

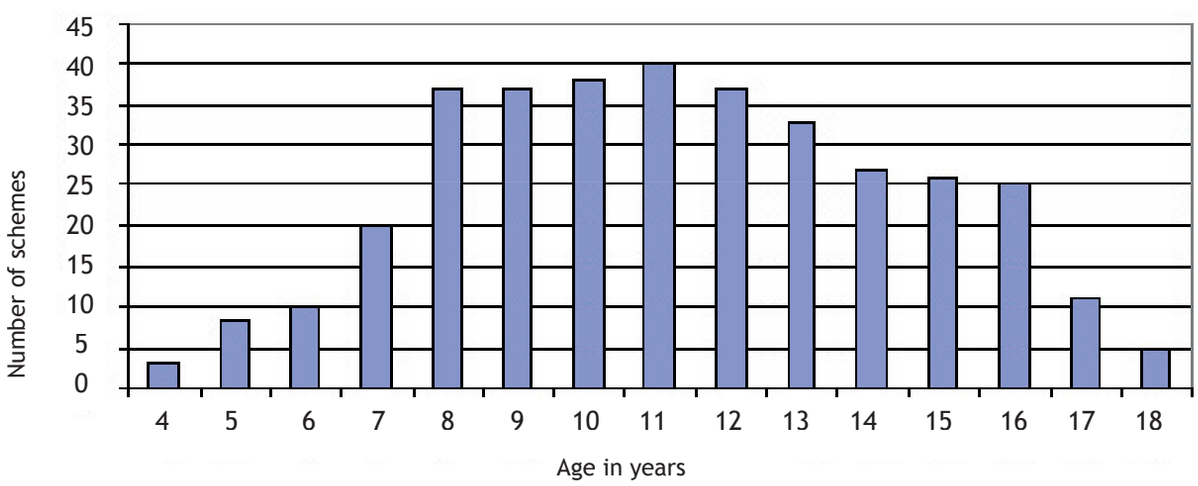


Table 3.5 Weight-related admission criteria for schemes (n=49)

Weight-related admission criterion	Number of schemes
BMI percentile for age and sex above 99	1
BMI percentile for age and sex above 98	7
BMI percentile for age and sex above 97	1
BMI percentile for age and sex above 95	3
BMI percentile for age and sex above 91	9
'Obese'	4
'Overweight or obese'	22
Other	2

We tried to ascertain the **main referral route** for each of the schemes, but in the majority of cases (40 schemes – 78%), we were unable to record this information. Most scheme contacts preferred to give a list of several referrers rather than nominating a 'main' referral route. We merged 'self' and 'parent' referrals, since it became clear in the course of the work that participation in schemes tends to rely on the consent and motivation of both the young people and their parents. From the perspective of those running the scheme, distinguishing between the main referrer as parent or as child was therefore rarely meaningful.

Table 3.6 describes the main source of referral for the 11 schemes which were able to provide it.

Table 3.6 Main sources of referral (n=11)

Main source of referral	Number of schemes
Self or parent referral	5
Other (Young Person's Exercise Referral Officer; specialist clinic; waiting list for dietetics service)	3
Referral by GP	1
Referral by school nurse	2

In all cases where these details were known (41 out of 51 schemes), the child's parents and/or siblings were, or could be, involved.

For 17 schemes, some reference to conditions for participation was reported. Three reported no such conditions; in eight cases parental attendance at sessions was compulsory and, in one case, parents needed to agree to home involvement. Many schemes were described as 'family-based' and encouraged parental or family involvement but did not insist on it. Two schemes specified that parents and/or children should be able to speak English, four excluded those with certain obesity-related co-morbidities, three excluded those with medical causes for their obesity, one excluded those with an eating disorder, and one those with a BMI above the 99.6th percentile. Three excluded those who could not take part in physical activity, and two those whose significant learning difficulties would prevent their taking part in educational components. Two referred to motivation (family or child) and adopting a healthy lifestyle as a condition for taking part and two to a catchment area relating to a school group or GP registration. Table 3.7 shows the type of parental/family involvement across the schemes.

Table 3.7 Type of parental/family involvement (n=41 schemes reporting involvement)

Type of parental/family involvement (multiple responses possible)	Number of schemes
Type of involvement unknown	6
Attend scheme with child	34
Support child at home with eating and/or exercise	16
Cook with the child	6
Other	4

Six schemes were known to involve families, for instance because they were described as 'family-based', but the type of involvement was otherwise unclear. Almost all of the remaining cases known to involve parents and families (34 schemes) invited them to attend all or some sessions with the participating child. In some cases participation in separate sessions for parents and/or joint sessions with their children was a mandatory condition for a child's participation, while in others it was optional or strongly encouraged. Some schemes allowed children to bring siblings or a friend along; they would typically participate in activity sessions, for example, but not the key parts of the intervention. Reasons given for including siblings included increasing recruitment and reducing drop-out of overweight and obese children, which could occur when children felt they were singled out to take part in an intervention for 'fat people', or when the need for childcare for siblings made it difficult for participating children and/or their parents to attend. In Table 3.7, the four cases labelled 'other' referred to possible roles for parents in delivering the intervention.

Information on the **capacity and uptake** of schemes, based on the most recently available annual data, was patchy. Ideally, one would want information on how many individuals a scheme is planned and staffed to take, how many are referred, how many of those referred attend at least one session, and how many of those referred stay until the end of the scheme and achieve the desired outcomes. Appendix 4 shows capacity and

uptake for the 18 schemes for which we were able to ascertain data. For 15 schemes, some information about **annual capacity** (number of children per year) was obtained. Where provided, annual uptake was also recorded, and some schemes took the opportunity to describe potential capacity using funds they expected to obtain.

Differences between capacity and uptake should be interpreted with caution, since these are influenced by the appropriateness of referral (whether the children referred, and their families, are aware of what the programme involves, and are motivated to attend consistently).

3.5 Evaluation and evidence on which the schemes were based

We wanted to find out the monitoring and evaluation status of the 51 schemes, but our remit did not include an appraisal of either the schemes or their evaluations.

The evidence used to design and set up a scheme, and the question of whether a scheme has been (or can be) evaluated and what the evaluation shows, are interrelated. The three key questions are: 'why might we expect this scheme to work?', 'does it work (or not)?' and 'how does it work (or not)?'

Starting with the question of the evidence used to set up a scheme, Table 3.8 summarises the advice reported to underpin the different schemes in the 19 cases for which we were able to collect this information. Sixteen schemes quoted research evidence and three the 2006 NICE guidance. Thirteen referred to 'expert advice' and eleven to experience of other interventions. Of the two schemes based on a different source of information (marked 'other' in Table 3.8), one was developed as part of the project lead's PhD and the other through action research with obese children and their families.

Table 3.8 Information/advice underpinning schemes (n=19)

Type of advice or information upon which the schemes' development was based (multiple responses possible)	**Number of schemes**
NICE 2006 guidance	3
Other research evidence	16
Experience of other interventions	11
Specific named theory/model of behaviour change referred to in setting up/running the intervention	8
Expert advice	13
Analysis of local needs	7
Other	2

Establishing whether **monitoring and evaluation data had been collected** proved challenging. The meaning attached to the term 'evaluation' varied, and documentation ranged from very brief user feedback to details of more robustly conducted pieces of work. Appendix 5 gives more details of the documents reporting on the monitoring and/or evaluation for the 25 schemes on which we were able to collect data.

Table 3.9 shows how the schemes fared in relation to the questions about monitoring and evaluation.

Table 3.9 Have monitoring and evaluation data been collected? (n=34)

Have monitoring and evaluation data been collected?[5]	**Number of schemes**
In process	4
No	5
Yes	25

We asked where evaluation or monitoring documents could be located, and almost half of the schemes (25) sent us a response we could use, sometimes accompanied by documentation, or a date by which they were expecting an evaluation report. References to this material, ranging from reports and articles sent by the schemes, to conversations about the evaluation, can be found in Appendix 5. While these data are incomplete, the information we have illustrates the range of responses, and the ways in which schemes were going about this task, with designs ranging from RCTs to focus groups with scheme participants.

Non-receipt of evaluation reports should not be taken to mean that the evaluation was not done, or is not in the process of being completed. In some cases, these data were not available to us because (a) internal monitoring/evaluation reports might contain identifying information about participants, particularly if the schemes were small and/or being run as a pilot and (b) some schemes, not unreasonably, wished to publish data or evaluations themselves before making them available elsewhere.

3.6 Outcomes measured in monitoring and evaluation documents

For the reasons evident above, data on outcomes measured are patchy. BMI and waist circumference were the most widely used outcomes, as Table 3.10 indicates.

[5] We recorded as 'in process' only those undertaking evaluation but unable to supply data at the time. Schemes were categorised as 'yes' if they supplied data, even if the evaluation was incomplete or not yet written up.

Table 3.10 Outcomes measured (multiple responses possible, n=26)

Outcomes measured	Number of schemes
Changes in BMI	18
Changes in waist measurement	8
Changes in weight	2
Knowledge about healthy eating	1
Other	13

Other outcomes measured included children's and parent's reports of eating and activity habits, parental BMI, children's knowledge of healthy eating and attitude to healthy eating and physical activity, and psychological aspects of children and families' well-being (such as self-esteem). In some cases other measures were used, such as percentage of body fat.

While we have been able to identify some suggestions as to barriers and levers to attaining successful outcomes, these are speculative and are therefore included in the discussion section below.

3.7 Matters of process

Moving from findings related to priority questions, to process issues relating to accessing data, we considered which of our search strategies were most successful in identifying schemes and initiatives.

3.7.1 Identifying initiatives

Schemes or initiatives were identified through a range of sources, of which personal contacts yielded the largest number of initiatives. This category of contacts includes regional and local obesity leads, as well as local and national contacts for schemes. We received an exceptional level of help from obesity leads, and from those involved in the schemes we described in section 3.1.

With the help of the leads and other contacts, various mapping exercises were identified covering areas from one PCT or local authority up to a whole region. In some cases, regional mapping exercises formed a major part of the response from a particular region.

While the geographical scope of these was narrower than ours, the topic scope tended to be wider (including, for example, interventions with adults; prevention and screening initiatives; workforce development; and population-based or 'at-risk' schemes) rather than just those initiatives targeted at overweight/obese children and young people.

Our contacts with obesity leads and the snowballing technique resulted in our being told about a number of other mapping and scoping exercises, which in turn proved useful in identifying schemes.

Table 3.11 Other mapping and scoping exercises identified (above PCT/local authority level)

Area	Undertaken by	Year
Kent and Medway	Obesity teams within Kent and Medway	2006
North East	Durham University (draft provided)	2008
North West	North West Regional Public Health Group	2007
Thames Valley	Public Health Resource Unit	2006
West Midlands	Wolverhampton University	2008
Yorkshire and Humber	Yorkshire and Humber Regional Public Health Group	2006

These mapping exercises were used to inform our database, rather than being uploaded in full, given their differing topic scopes.

CHAPTER FOUR

Discussion, conclusions and recommendations

Mapping is undertaken to provide a relatively speedy picture of activity in a given area. It cannot provide all the answers (and does not set out to do so).

We captured a wealth of information on obesity schemes aimed at children and young people but were necessarily limited by time, and by practical and data considerations. Further work in this area might consider a focus on the following important issues: do schemes specifically address issues around wider health inequalities in some population groups (e.g. BME communities); are schemes part of a wider strategy to address child health and well-being; and to what extent do scheme implementers take a tiered approach to interventions, e.g. different interventions for different levels of need? It may be useful to explore implementers' views on how they assess levels of need independently of 'objective' measures such as BMI. Work exploring these questions would require both quantitative and qualitative approaches.

Obesity and healthy weight are concerns which bring together different strands of children's lives, as well as different areas of policy. In addition to the policy documents listed in the background to this report, the work described also has the potential to link to initiatives such as the National Child Measurement Programme, Healthy Schools Standard, Every Child Matters and Choosing Health (Department of Health 2004).

This report is one of the first outputs from a review series on childhood obesity currently being undertaken by the EPPI-Centre as part of a larger programme of work on health promotion and public health reviews funded by the Department of Health, England. The map of schemes described in this report was undertaken alongside a map of review-level evidence on the effectiveness of social and environmental interventions for childhood obesity (Woodman et al. 2008). The next report, due for publication in 2009, will describe a systematic review of research on children's views relating to obesity (see Rees et al. 2008 for the protocol).

The database associated with this report provides a good deal of detail on individual schemes addressing childhood overweight and obesity in the UK, which have not, so far as we are aware, been brought together elsewhere. A database of schemes tells us about provision rather than effectiveness. Effectiveness (and cost-effectiveness) studies, some of which are in progress elsewhere, will be required to throw light on the extent to which programmes 'work'.

Mapping exercises are undertaken to provide a broad, and where possible, comprehensive overview in a given area. Providing a census of ongoing activity in a fast-changing field is a challenge. While we had a welcome strong response from the majority of obesity leads and heard of several schemes from multiple sources (giving us some confidence of coverage) we are aware that our database may under-represent schemes in one region, as a result of non-response.

A strength of a rapid exercise of this type is that it provides a transparent and readily searchable database which has the potential to be more fully populated and updated. A potential weakness is missing data, and it is recognised that, without updating, the database serves a limited purpose. The type, scope and variety of information that can be coded within a mapping exercise is limited; and there may be problems accessing data on some aspects of scheme set-up and running (especially in relation to staff numbers, composition and level of training, for example).

Funding sources may not be recorded exhaustively in the database. In-kind contributions (provision of venues, sports equipment, and in some cases staff/volunteer time) are easy for schemes to overlook and less likely than financial inputs to appear in project literature. In addition, funding from national

initiatives, such as the Neighbourhood Renewal Fund, Choosing Health (DH) or Sport England, could be received via local authorities or Primary Care Trusts, leading to some variation in whether either or both were identified as funding sources.

Questions on capacity and uptake were sometimes difficult for those running schemes to answer. Many of the schemes are growing, or hope to grow, depending on the receipt of further (often fairly short-term) funding, and were reluctant to give the past year's numbers when this year's might be very different.

Data are not necessarily collected by year, but by cohort – a variable number of groups or intakes might run per year, for example, but each would have a similar number of participants. Decisions to vary the numbers could also be made on pragmatic grounds, for instance the inclusion of participants with learning difficulties or behavioural problems would sometimes necessitate a smaller group size. Where siblings were allowed to attend, it was not always clear whether capacity included these siblings or just the overweight/obese individuals. Impressionistically – and supported by figures from reports, where available – the type of schemes included in this mapping exercise may experience high levels of attrition. This can occur between identification and referral of overweight/obese individuals and starting the programme, with some children never attending. It can also occur between attending the first session and completing the programme. Attrition from structured programmes can be problematic since once the programme has begun and drop-out occurs, it may not be feasible for children on a waiting list to join mid-way through.

Some scheme contacts spoke of this as a major problem and a waste of money; some had tightened up their referral process to ensure that participants and their families were motivated and aware from the outset what the programme would involve. Where reported, this has had some positive effects by reducing attrition, although there are clearly some problems in targeting only the most motivated families. In many cases, the length of a scheme is close to the duration of a school term, and we were told that where schemes run for longer, attendance tends to drop over school holidays.

While a full exploration of the reasons for targeting particular age groups is beyond the scope of this report, it is worth noting that a Public Service Agreement (PSA) target was set in 2004 to halt the rise in obesity among under-11s by 2010. This was reported as a contributing factor to the adjustment of the age group of one of the schemes from 12-18 to 8-12, and there is some suggestion from those on the ground that engagement in schemes of the type described in this report is more challenging where older children and young people are concerned.

4.1 Conclusion and recommendations

As we reported above, information about schemes set up in response to national priorities, which may or may not be research-based, is not easy to bring together for knowledge and practice sharing. The generation and population of registers of schemes addressing health priorities would provide a means for tracking the extent to which the evidence base is being used and added to. However, the problems in setting up such a database are not to be underestimated.

A rapid data collection exercise of this kind often lacks the kind of texture that might be provided through a qualitative exercise. However, a combination of data from the documentation we obtained from schemes, and from the many helpful conversations we had with project leads and others, suggest a number of levers and barriers to good scheme implementation. These are summarised in Box 4.1, but it must be emphasised that they are somewhat speculative.

Box 4.1 Levers and barriers to scheme implementation

Levers and barriers to scheme implementation fall broadly into three areas.

The first, encompassing 'practical' factors affecting implementation, includes issues around the type and extent of funding, the accessibility of transport (and its affordability), the level of training and motivation of staff and the involvement of other agencies. These are all largely external factors, over which those implementing the programme will have limited control.

The second area includes what might be termed 'psycho-social factors'. These would include general good will towards a scheme, the degree and type of carer involvement and the motivation of participants to attend (the latter is an extremely important lever to the success of schemes, as noted above). These are also external factors, but are linked to the programme itself (those implementing the programme can engender good will among participants, take steps to promote carer involvement and ensure that new starters and their families and those who refer them are aware of what the scheme involves).

Finally, the third area of levers and barriers includes those related to the programme features and socio-cultural context. These are specifically about the interplay between aspects (practical, social) of the programme itself and

cultural and structural features of the local community where it is being implemented. In this group, issues around mode of referral, the interpretation of the programme in specific local contexts and follow-up/booster sessions are all important levers and/or barriers. In contrast to the first two areas, factors in this group are related to the programme itself and are to do with how well it can be applied in some contexts (maybe ones with diverse populations), or how it helps participants maintain weight loss through practical means.

Recommendations

1 That a searchable register/database of schemes be considered, populated by a common dataset tied to the funding of schemes.

2 Given the need to tackle inequalities in health, that each scheme be encouraged to include in applications for funding a statement on the way in which schemes audit and assure equity in access.

3 Future work developing databases of this kind might be shared across DH and DCSF. Some respondents were involved with Healthy Schools and there is clearly scope for knowledge sharing on topics such as obesity.

4 Given the considerable variation in the extent to which schemes are, or have been evaluated, it may well be that a toolkit would be helpful for those running services, particularly where these are smaller schemes.

CHAPTER FIVE

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Appendix 1: EPPI-Reviewer coding framework

* Indicates a DH priority question

Review-specific data extraction guidelines for a mapping exercise on schemes to promote healthy weight among obese and overweight children in England

Section A: Background

Covers: basic details about the scheme, its setting up, links with other initiatives and possible roll out.

A.1 Name of scheme	A.1.1 Enter name *(free text)*
A.2 Telephone number	A.2.1 Enter telephone number *(free text)*
A.3 Website	A.3.1 Enter website address *(free text)*
A.4 Address of scheme	A.4.1 Enter address *(free text)*
A.5 Contact name(s)	A.5.1 Enter contact name(s) *(free text)*
A.6 Email address(es)	A.6.1 Enter email address(es) *(free text)*
A.7 When was the scheme set up? *(For schemes in development, enter '2008+')*	A.7.1 Pre-2002
	A.7.2 2002
	A.7.3 2003
	A.7.4 2004
	A.7.5 2005
	A.7.6 2006
	A.7.7 2007
	A.7.8 2008+
	A.7.9 Unknown
A.8 *Is the scheme still running?	A.8.1 No
	A.8.2 Yes
	A.8.3 Unknown

A.9 *Who are the key partners, including those involved in the scheme's set up? List, indicating the lead organisation.	A.9.1 LEAD ORGANISATION *(please specify; and please also select organisation type from the list)*
	A.9.2 Primary Care Trust (PCT)
	A.9.3 Local authority (LA)
	A.9.4 School(s)
	A.9.5 Other *(please specify)*
	A.9.6 Voluntary organisation *(please specify)*
	A.9.7 Unknown

Section B: Overall approach

Covers the objectives and main components of the programme, target age group, who delivers the intervention, the involvement of parents and others, and the programme's evidence base.

B.1 *What are the programme's (stated) objectives?	B.1.1 Please add details *(free text)*
	B.1.2 Not stated but implicit: weight management or weight loss
B.2 *What age group does the intervention cover? *(Age group of target population)*	B.2.1 age range unknown, but exclusive to children and/or young people
	B.2.2 Other details *(please specify)*
	B.2.3 4
	B.2.4 5
	B.2.5 6
	B.2.6 7
	B.2.7 8
	B.2.8 9
	B.2.9 10
	B.2.10 11
	B.2.11 12
	B.2.13 14
	B.2.14 15
	B.2.15 16
	B.2.16 17
	B.2.17 18
	B.2.18 unknown
B.3 *Which of the following does the intervention cover? *Any number of components can be identified.*	B.3.1 Behaviour change techniques
	B.3.2 Advice/information about healthy eating
	B.3.3 Advice/information about physical activity
	B.3.4 Some form of physical activity
	B.3.5 Healthy food preparation/cooking, and/or tasting/provision
	B.3.6 Other *(please specify)*
	B.3.7 Unknown

B.4 Who delivers the intervention? *(select all that apply)*	B.4.1 Unknown
	B.4.2 Community worker
	B.4.3 Counsellor
	B.4.4 Health professional: dietician/nutritionist
	B.4.5 Health professional: school nurse
	B.4.6 Health professional: other *(please specify)*
	B.4.7 Health promotion/education practitioner
	B.4.8 Lay therapist
	B.4.9 Parent
	B.4.10 Peer *(please specify)*
	B.4.11 Psychologist
	B.4.12 Researcher
	B.4.13 Residential worker
	B.4.14 Social worker
	B.4.15 Sports/exercise worker
	B.4.16 Teacher/lecturer
	B.4.17 Other *(please specify)*
B.5 Are parents/carers/other family members involved in the intervention?	B.5.1 Yes
	B.5.2 No
	B.5.3 Unknown
B.6 If yes, how are they involved? (select all that apply)	B.6.1 n/a *(answer to question B5: 'no' or 'unknown')*
	B.6.2 Unknown *('yes' to question B5, but type of involvement unknown)*
	B.6.3 Attend scheme with child
	B.6.4 Other *(please specify)*
	B.6.5 Cook with the child
	B.6.6 Support child at home with eating and/or exercise
	B.6.7 Go food shopping with child
B.7 Was information and/or advice used in the setting up of the intervention?	B.7.1 Yes
	B.7.2 No
	B.7.3 Unknown
B.8 If yes, what was this advice/information? *(if 'yes' to previous question, select all that apply)*	B.8.1 Analysis of local needs
	B.8.2 Specific named theory/model of behaviour change referred to in setting up/running the intervention
	B.8.3 Experience of other interventions
	B.8.4 Expert advice
	B.8.5 NICE 2006 guidance
	B.8.6 Other research evidence
	B.8.7 Other *(please specify)*
	B.8.8 n/a

Section C: Running the intervention

Covers the duration of the intervention and the settings where it is delivered.

C.1 *On average, and based on the most recent data, how long does the core period of the intervention last? *(also specify if any additional 'follow-up' sessions take place)*	C.1.1 Core period duration unknown
	C.1.2 Less than one week
	C.1.3 One week
	C.1.4 Two to six weeks
	C.1.5 Seven to nine weeks
	C.1.6 Ten to twelve weeks
	C.1.7 More than twelve weeks
	C.1.8 Unknown if there is any follow-up
	C.1.9 No additional follow-up
	C.1.10 Additional one-off follow-up
	C.1.11 Other follow-up *(please specify)*
C.2 What kind of venue is the intervention delivered in? *(select as many settings as apply)*	C.2.1 Unknown
	C.2.2 Community *(please specify)*
	C.2.3 Correctional institution *(please specify)*
	C.2.4 Day care centre
	C.2.5 Educational institution - unspecified *(if not further specified)*
	C.2.6 Educational institution - pre-school
	C.2.7 Educational institution - primary education
	C.2.8 Educational institution - secondary education
	C.2.9 Educational institution - FE/college
	C.2.10 Family centre
	C.2.11 Health care unit - unspecified
	C.2.12 Health care unit - primary care
	C.2.13 Health care unit - hospital
	C.2.14 Health care unit - specialist clinic
	C.2.15 Home
	C.2.16 Hospice
	C.2.17 Leisure centre
	C.2.18 Outreach
	C.2.19 Residential care
	C.2.20 Residential outing *(e.g. summer camp)*
	C.2.21 Workplace *(please specify)*
	C.2.22 Other *(please specify)*

Section D: Recruitment/referral to scheme

Covers the process by which those using the scheme come to use it, local/national knowledge of the scheme, the sex of users, completion rates, the number of people who are able to use the service.

D.1 *What is the main referral route?	D.1.1 Unknown
	D.1.2 Referral by GP
	D.1.3 Referral by parent
	D.1.4 Referral by school nurse
	D.1.5 Referral by social worker
	D.1.6 Referral by teacher
	D.1.7 Self-referral
	D.1.8 Other *(please specify)*
D.2 *What are the weight-related admission criteria? *(select all that apply)*	D.2.1 Not known - but overweight and/or obese
	D.2.2 Waist/hip ratio *(please add details)*
	D.2.3 Waist circumference *(please add details)*
	D.2.4 Other *(please specify)*
	D.2.5 BMI percentile for age and sex above 99
	D.2.6 BMI percentile for age and sex above 98
	D.2.7 BMI percentile for age and sex above 97
	D.2.8 BMI percentile for age and sex above 95
	D.2.9 BMI percentile for age and sex above 91
	D.2.10 ‘obese’
	D.2.11 ‘overweight or obese’
D.3 Is the intervention restricted to specific groups? *(If yes, which groups?)*	D.3.1 Unknown
	D.3.2 No
	D.3.3 Yes - BME groups
	D.3.4 Yes - low-income children
	D.3.5 Yes - children with learning disability
	D.3.6 Yes - children with SEN
	D.3.7 Yes - parents must accompany child to session
	D.3.8 Yes - parents must be involved at home/other setting
	D.3.9 Yes - girls only
	D.3.10 Yes - boys only
	D.3.11 Yes - other *(please specify)*
D.4 *How many children can the programme cover per year? *(Programme’s capacity, based on most recent figures)*	D.4.1 Enter number *(free text)*
	D.4.2 Unknown
D.5 How many children participate per year? *(Based on most recent figures)*	D.5.1 Enter number *(free text)*
	D.5.2 Unknown

Section E: Costs and funding

E.1 *How is the intervention funded? *(including contributions in kind)*	E.1.1 Unknown
	E.1.2 Funding from charities/voluntary organisations
	E.1.3 Funding from DH
	E.1.4 Other funding *(please specify)*
	E.1.5 PCT funding
	E.1.6 PCT contributions in kind
	E.1.7 LA funding
	E.1.8 LA contributions in kind
	E.1.9 School contributions in kind, e.g. provision of venue
	E.1.10 Other contributions in kind
	E.1.11 Payment from family

Section F: Monitoring and evaluation

Covers data collection, follow-up, effectiveness, evidence used to set up the scheme, changes to the scheme and challenges to the running of the scheme.

F.1 *Has monitoring/evaluation data been collected about the intervention?	F.1.1 Yes
	F.1.2 No
	F.1.3 Unknown
	F.1.4 Yes - provided
	F.1.5 Yes - but not provided
	F.1.6 In process
F.2 If 'yes', where can this be located? *(please specify)*	F.2.1 Enter details *(free text)*
F.3 *What kind of outcomes are measured in the monitoring/evaluation document? *(select all that apply)*	F.3.1 Changes in BMI
	F.3.2 Changes in waist measurement
	F.3.3 Changes in weight
	F.3.4 Knowledge re: healthy eating
	F.3.5 Other *(please specify)*
	F.3.6 Unknown
F.4 In the evaluation/monitoring document, is there any discussion of the main levers and barriers to intervention implementation and effectiveness?	F.4.1 Yes
	F.4.2 No
	F.4.3 Unknown
F.5 If 'yes', what are the main levers and barriers identified? *(please specify)*	F.5.1 Main levers *(free text)*
	F.5.2 Main barriers *(free text)*

APPENDIX 2 Details of the 51 schemes

Scheme name	Still running?	Location[6]	No. of schemes/ programmes running (at any point in time)	No. of locations	Total[7]
Carnegie Clubs (Carnegie Weight Management)	Yes	Walsall, Newark and Sherwood; Isle of Man; Leeds	14 overall	Various	14
Carnegie International (Residential) Camp (Carnegie Weight Management)	Yes	various locations, based in Leeds			
Carnegie International Day Camp (Carnegie Weight Management)	Yes	(as above)			
MEND (Mind Exercise Nutrition... Do it!)	Yes	various, throughout the country	Many	Many	250-310[8]
Traffic Light Childhood Obesity Treatment Programme (Great Ormond Street Hospital)	Yes	Central London	1	1	1
Traffic Light Childhood Obesity Treatment Programme (Islington)	No	Islington			
Traffic Light Programme (Surrey)	Forthcoming	Surrey			
WATCH IT!	Yes	Leeds, (Birmingham/Solihull, Haringey)	1-4[9]	3	6[10]

[6] The *precise* catchment areas for each programme may be smaller or larger than the place names in the table.
[7] This number refers to entries in the database.
[8] Personal communication April 2008: current estimate 250 to be increased to 310 by the end of the year.
[9] 12 per year in Leeds – estimated 4 at a time in this location.
[10] Personal communication, April 2008: currently three in three locations; will rise to four shortly; 25 PCTS have expressed an interest.

Scheme name	Still running?	Location	No. of schemes/ programmes running (at any point in time)	No. of locations	Total
Activate (Tower Hamlets)	Yes	Tower Hamlets	1	1	1
Alive 'n' Kicking childhood obesity intervention programme	Yes	Sutton and Merton	1	1	1
All Together Active	Yes	Stockport	1	1	1
Balance it! Getting the Balance Right	Yes	Gateshead	1	1	1
Barnsley Dietetic Led Specialist Obesity Clinic	Unknown	Barnsley	1	1	1
Barnsley Fit Kids Club	Yes	Barnsley	1	1	1
Be Active	Yes	Stockport	1	1	1
BeeZee Bodies	Yes	Bedford	1	1	1
BEST, aka Healthy Lifestyles (Tower Hamlets)	No	Tower Hamlets	1	1	1
CO Action (one-off weight management group)	No[11]	Manchester	-	-	-
COCO (Care of Childhood Obesity Clinic)	Yes	Bristol	1	1	1
Connect 3	Yes	Wakefield	1	1	1
Families for Health	Yes	Portsmouth, Coventry	1	2	2
Fawkes Project (pilot)	Unknown	East Cambridgeshire	1	1	1
FISCH (Family Initiative Supporting Children's Health) family support programme	Yes	Durham, Chester-le-Street	1	2	2
FIT (Fun In Training)	Yes	Birmingham	1	1	1
Fit for Life Academy	Yes	St Helens	1	1	1
Fit Friendz	Yes	Wigan	1	1	1
Food Fit Fun[12]	No	Tower Hamlets	-	-	-
Fun 4 Life	Yes	Walsall	1	1	1
Go 4 It (Nottingham)	Yes	Nottingham	1	1[13]	1
GOALS! (Getting Our Active Lifestyles Started)	Yes	Liverpool	3-4	1	3-4
Healthy Lifestyles (City and Hackney)	Yes	Hackney	1	1	1
Home Visit Support (Dudley)	Yes	Dudley	1	1	1

[11] Replaced by local MEND scheme.
[12] Food Fit Fun was replaced with Activate (Tower Hamlets)
[13] This scheme is not linked to 'Go For It' in Waltham Forest, which did not meet the inclusion criteria.

Scheme name	Still running?	Location	No. of schemes/ programmes running (at any point in time)	No. of locations	Total
In-house 6-week family-based weight management programme - Greenwich (being developed - no name yet)	Forthcoming	Greenwich	-	-	-
Jump Start Child Obesity Programme	Unknown	Daventry	1	1	1
Junior One Life	Unknown	Darlington	1	1	1
Kick-start (Poole)[14]	Yes[15] but now open to healthy weight	Poole	-	-	-
Kickstart (Westminster)[16]	Yes	Westminster	1	1	1
Kids Club (Canterbury and Ashford)	Unknown	Canterbury and Ashford	1	1	1
New LEAF Programme (Lifestyle, Eating, Activity and Fitness)	Yes	Chichester	1	1	1
Nutrifit Norfolk	Yes	Norfolk	1	1	1
On the Go	Yes	Newcastle	1	1	1
OSCAR (Obesity Support for Children and Relatives)	Yes	East Lancashire	1	1	1
Phases	Unknown	Dudley	1	1	1
Positive LEARN (Lifestyles, Esteem, Activity, Relationships and Nutrition) Group Programme	Yes	Bolton	1	1	1
Positive LEARN (Lifestyles, Esteem, Activity, Relationships and Nutrition) Individual Programme	Yes	Bolton	1	1	1
Rich Fit (Formerly FLIP)	Yes	Richmond and Twickenham	1	1	1
SHINE (Self Help Independence, Nutrition and Exercise)	Yes	Sheffield, Oldham, Plymouth	1	3	3[17]
TEAM (To Energise And Motivate)	Yes	Cambridgeshire	1	1	1
Weight Watchers Family	Yes	N. Essex (pilot)	1	1	1
Y W8? Project	Yes	Telford and Wrekin	1	1	1
Young PALS (Practice Activity and Leisure Scheme)	Yes	Kirklees	1	1	1
Total			**314-375**[18]		

[14] This scheme is not linked to Kickstart (Westminster).

[15] This scheme was originally targeted at overweight/obese children. It is now also open to children of a healthy weight who may be inactive, and therefore at risk of overweight. It is included in the database as it met our inclusion criteria at the time data were collected.

[16] This scheme is not linked to Kick-start (Poole).

[17] Personal communication, April 2008.

[18] This range relates to MEND estimates above.

Appendix 3: Age range of participants accepted by schemes

Scheme name	Age of participants (in years)														
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Carnegie Clubs				x	x	x	x	x	x	x	x	x	x	x	
Carnegie (Residential) International Camps					x	x	x	x	x	x	x	x	x	x	
Carnegie Day Camp				x	x	x	x	x	x	x	x	x	x	x	
MEND				x	x	x	x	x	x	x					
Traffic Light childhood obesity programme (Great Ormond St)					x	x	x	x	x	x					
Traffic Light childhood obesity programme (Islington)					x	x	x	x	x	x					
Traffic Light childhood obesity programme (Surrey)					x	x	x	x	x	x					
WATCH IT!					x	x	x	x	x	x	x	x	x		
Activate (Tower Hamlets)									x	x	x	x	x	x	x
Alive 'n' Kicking childhood obesity intervention				x	x	x	x	x	x	x	x	x	x		
All Together Active			x	x	x	x	x	x	x	x					

Scheme name	Age of participants (in years)														
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Balance It! Getting the balance right		x	x	x	x	x	x	x	x	x	x	x			
Barnsley dietetic-led specialist obesity clinic programme	x	x	x	x	x	x	x	x	x	x	x	x	x		
Barnsley Fit Kids Club					x	x	x	x	x	x	x	x	x		
Be Active					x	x	x	x	x	x	x	x	x		
BeeZee Bodies				x	x	x	x	x	x	x	x				
BEST, aka Healthy Lifestyles, Tower Hamlets				x	x	x	x	x	x	x	x	x	x	*	*
CO Action				x	x	x	x	x							
COCO clinic programme		x	x	x	x	x	x	x	x	x	x	x	x	x	
Connect 3					x	x	x	x	x	x	x	x	x		
Families for Health				x	x	x	x	x							
Fawkes project (pilot)								x	x						
FISCH family support programme					x	x	x	x							
FIT					x	x	x	x	x	x	x	x	x		
Fit for Life Academy		x	x	x	x	x	x	x	x	x	x	x	x		
Fit Friendz					x	x	x	x	x	x	x	x	x		
Food Fit Fun									x	x	x	x	x	x	x
Fun 4 Life					x	x	x	x	x	x	x	x	x		
Go 4 It!		x	x	x	x	x	x	x	x	x					

Scheme name	Age of participants (in years)														
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
GOALS!	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Healthy Lifestyles (City and Hackney)				x	x	x	x	x	x	x					
Jump Start										x	x	x	x		
Junior One Life					x	x	x	x							
Kick-start (Poole)					x	x	x	x	x						
Kickstart (Westminster)					x	x	x	x							
Kids Club (Canterbury and Ashford)			x	x	x	x	x	x	x	x					
Nutrifit Norfolk											x	x	x	x	x
On the Go					x	x	x	x	x	x	x	x	x		
Phases								x	x	x	x	x	x	x	x
Positive LEARN group programme									x	x	x	x	x		
SHINE							x	x	x	x	x	x	x	x	
TEAM				x	x	x	x	x							
Weight Watchers Family	x	x	x	x	x	x	x	x	x	x	x	x	x		
Y W8?					x	x	x	x	x	x					
Young PALS		x	x	x	x	x	x	x	x	x	x	x	x		

*BEST is open to 7-16 year olds, and to 17-19 year olds with learning difficulties.

Appendix 4: Capacity and uptake of schemes

Scheme name	Capacity	Uptake
Alive 'n' Kicking childhood obesity intervention programme	'Initially capacity will be restricted to 100 families over the period of one year, though funding to extend the scheme is currently being sought.' (From proposal dated 2006).	
Balance It! Getting the Balance Right	At least 100 referrals per year.	
BeeZee Bodies	25 (at the pilot stage).	17 young people completed the first 16 weeks of the programme.
BEST, aka Healthy Lifestyles (Tower Hamlets)	Annual capacity determined by funding, currently 2 MEND programmes per school term and one BEST per school term = 55 places x 3 school terms = 165 places per annum. (This is the total capacity of BEST plus local MEND programmes).	
CO Action		One-off course: 4 children and their families took part.
COCO (Care of Childhood Obesity Clinic)	140-150 children per year.	
Connect 3	No data on most recent year but suggested that with anticipated funding, programme could be scaled up as follows: • Connect3 programmes run in 24 locations annually (360 children). • Connect3Active programmes in minimum of 30 locations annually (360 children). • Connect3Junior programmes run in 13 locations twice a year (260 children). • Connect3 programmes run in 4 special schools twice a year (64 children). • Green Fingers Gang runs in three venues twice each a year (72 children).	
FISCH family support programme		Number of families responding to offer of support: 23 in 2005/06; 10 or 11 children took part.
Fit for Life Academy	Up to 20 children and their families per scheme; 3 schemes per year. Only 2 schemes ran last year as a result of venue problems.	

Scheme name	Capacity	Uptake
Fun 4 Life	Capacity 20 children x 3 programmes per year = 60	Usually around 15 per programme; one has operated at full capacity. 3 programmes per year.
Go 4 It (Nottingham)	100 new children per year (rolling programme).	49 over January-June 2005
GOALS! (Getting Our Active Lifestyles Started)	In Liverpool: 84 (Average of 7 programmes per year run across Liverpool - each with capacity for 12 children, including siblings of participants encouraged to attend but who may not be overweight/obese.) GOALS pilot was due to begin in Sandwell PCT, West Bromwich during April 2008.	2006/07 phase (one year): 33 children (and families) completed the full intervention.
MEND (Mind Exercise Nutrition... Do it!)	Maximum of 15 children per programme (ideally 12). 250 programmes per year increasing to around 310 by end of 2008.	
SHINE (Self Help Independence, Nutrition and Exercise)	10-20 per programme, 3 programmes per year. Number per programme depends on needs of the young people e.g. if special needs, group size around 10; otherwise up to 20.	52 in 2007.
Traffic Light Childhood Obesity Treatment Programme (Islington)	Three programmes in a year: For the first and second programme: 8 children were recruited and 5 completed the programme. For the third programme: 11 children recruited; 7 completing this programme.	
WATCH IT!	In Leeds: capacity of around 140 per year. Also runs in Haringey and Birmingham.	In Leeds: uptake around 100 children per year.
Y W8?		32 children (2006/07 year - first year of the programme).
Young PALS (Practice Activity and Leisure Scheme)	1000+ across the whole of Kirklees.	200-300 (estimated).

Appendix 5: Scheme evaluations, monitoring documents and other publications

Scheme name	Evaluation, monitoring documents and other publications
Balance It! Getting the Balance Right	Evaluation - participant (user and provider) ongoing. A review of the first year of the project was written up and submitted as dissertation for MSc; medical review assessment just completed. Abstracts of results were to be presented at European meeting in York in April 2008 and in Geneva in May 2008. Contact Anne Dale for further information.
Be Active	Annual Report currently underway.
BeeZee Bodies	Evaluation underway (by Stuart King). The results of the study will be published by peer-reviewed journal after completion of the programme.
Carnegie International (Residential) Camp (Carnegie Weight Management)	King NA, Hester J, Gately PJ (2007) The effect of a medium-term activity- and diet induced energy deficit on subjective appetite sensations in obese children. *International Journal of Obesity* 31: 334-339. Holt NL, Bewick BM, Gately PJ (2005) Children's perceptions of attending a residential weight-loss camp in the UK. *Child: Care, Health and Development* 31: 223-231. Gately PJ, Cooke CB, Barth JH, Bewick BM, Radley D, Hill AJ (2005) Children's residential weight-loss programs can work: a prospective cohort study of short-term outcomes for overweight and obese children. *Pediatrics* 116(July): 73-77. Walker LLM, Gately PJ, Bewick BM, Hill AJ (2003) Children's weight-loss camps: psychological benefit or jeopardy? *International Journal of Obesity* 27: 748-754.
CO Action (one-off weight management group)	Provided (monitoring summary for the four children). Scheme was a pilot, now replaced by MEND programme.

Scheme name	Evaluation, monitoring documents and other publications
COCO (Care of Childhood Obesity Clinic)	They have produced a number of peer- reviewed papers: Sabin MA, Hunt LP, Ford AL, Werther GA, Crowne EC, Shield JPH (2008) Elevated glucose concentrations during an oral glucose tolerance test are associated with the presence of the metabolic syndrome in childhood obesity. *Diabetic Medicine* 25: 289-295. Ells LJ, Shield JP, Lidstone JS, Tregonning D, Whittaker V, Batterham A, Wilkinson JR, Summerbell CD (2008) Teesside Schools Health Study: body mass index surveillance in special needs and mainstream school children. *Public Health* 122(3): 251-254. Haines L, Kay Chong Wan, Lynn R, Barrett TG, Shield JPH (2007) Rising incidence of type 2 diabetes in children in the United Kingdom. *Diabetes Care* 30: 1097-1101. Hunt LP, Ford A, Sabin MA, Crowne EC, Shield JPH (2007) Clinical measures of adiposity and percentage fat loss: which measure most accurately reflects fat loss and what should we aim for? *Archives of Disease in Childhood* 92: 399-403. Sabin MA, Crowne EC, Stewart C, Hunt LP, Turner SJ, Welsh GI, Grohmann MJ, Holly JMP, Shield JP (2007) Depot-specific effects of fatty acids on lipid accumulation in children's adipocytes. *Biochemical and Biophysical Research Communications* 361: 356-361. Sabin MA, De Hora M, Holly JMP, Hunt LP, Ford AL, Williams SR, Baker JS, Retallick JA, Crowne EC, Shield JPH (2007) Fasting non-esterified fatty acid profiles in childhood and their relationship with adiposity, insulin sensitivity and lipids. *Pediatrics* 20: e1426-e1433. Sabin MA, Ford AL, Hunt LP, Jamal R, Crowne EC, Shield JPH (2007) Which factors are associated with a successful outcome in a weight management programme for obese children? *Journal of Evaluation in Clinical Practice* 13: 364-368. Sabin MA, Ford AL, Holly JMP, Hunt LP, Crowne EC, Shield JPH (2006) Characterisation of morbidity in a UK, hospital-based, obesity clinic. *Archives of Disease in Childhood* 91: 126-130. Sabin MA, Holly JMP, Shield JPH, Turner SJ, Grohmann MJ, Stewart CEH, Crowne EC (2006) Mature subcutaneous and visceral adipocyte concentrations of adiponectin are highly correlated in normal-weight children and decrease with increasing Body Mass Index Standard Deviation Score. *Journal of Clinical Endocrinology and Metabolism* 91: 332-335. Grohmann M, Stewart C, Welsh G, Hunt LP, Tavare J, Holly J, Shield J, Sabin M, Crowne EC (2005) Site-specific differences of insulin action in adipose tissue derived from normal prepubertal children. *Experimental Cell Research* 308: 469-478. Page A, Cooper AR, Stamatakis E, Foster LJ, Crowne EC, Sabin M, Shield JPH (2005) Physical activity patterns in nonobese and obese children assessed using minute-by-minute accelerometry. *International Journal of Obesity* 29: 1070-1076. Drake AJ, Smith A, Betts PR, Crowne EC, Shield JPH (2002) Type 2 diabetes in obese Caucasian children. *Archives of Disease in Childhood* 86(3): 207-208. Drake AJ, Greenhalgh L, Newbury-Ecob R, Crowne EC, Shield JPH (2001) Pancreatic dysfunction in severe obesity. *Archives of Disease in Childhood* 84: 261-262.
Connect 3	Pilot evaluation has been conducted (report details will now be out of date, so not provided). Evaluation report was due end of March 2008.
Families for Health	Two abstracts presented at conferences: Robertson W, Barlow J, Hunt C, Oldfield M, Stewart-Brown S (2007). Families for Health programme for the treatment of childhood obesity: perception of parents. Robertson W, Stewart-Brown S (2007). Families for Health programme for the treatment of childhood obesity: process and outcome evaluation. Contact details for both: Warwick Medical School, University of Warwick, Coventry, CV4 7AL. They also have a PowerPoint presentation about the development of Families for Health and its evaluation. A full paper is being submitted for publication.

Scheme name	Evaluation, monitoring documents and other publications
FISCH (Family Initiative Supporting Children's Health) family support programme	Interim Evaluation of FISCH project pilot. Emma Walker, March 2006. This is an evaluation about the early stages of the FISCH project (which includes prevention and screening initiatives in schools), and not specific to the (obese-specific) Family Support Programme.
Fit for Life Academy	Internal evaluation (not publicly available). External audit undertaken by professional at local hospital. Evaluation of nutritional component is underway by a Chester University masters student.
Fit Friendz	Being evaluated by student at the University of Salford, as part of PhD.
Food Fit Fun	Report from Tower Hamlets Primary Care Trust.
Fun 4 Life	Data has been collected.
Go 4 It (Nottingham)	http://www.go4itnottingham.nhs.uk/how-do-i-refer-to-go-4-it Go to bottom of page to download the preliminary evaluation report (2005). A full evaluation report of the Needs Assessment is available on request.
GOALS! (Getting Our Active Lifestyles Started)	GOALS! Summary Report - September 2007 (draft provided by Paula Watson and Liverpool John Moores University). Delivered and evaluated through Department of Sport and Exercise Sciences at Liverpool John Moores University.
Kick-start (Poole)	From Bournemouth and Poole PCT.
MEND (Mind Exercise Nutrition... Do it!)	Multi-agency report due end of 2008. Oldham A, Aylott H, Sacher PM (2007) Mending the growing problem of childhood obesity. *The British Journal of Primary Care Nursing* 4: 297-299. Sacher PM, Chadwick P, Kolotourou M, Cole TJ, Lawson M, Singhal A (2007) The MEND RCT: effectiveness on health outcomes in obese children. *International Journal of Obesity* 31: S1. Sacher PM, Chadwick P, Kolotourou M, Cole TJ, Lawson MS, Singhal A (2007) The MEND trial: sustained improvements on health outcomes in obese children at one year. *Obesity* 15: A92. Sacher PM, Swain C (2007) The MEND programme: tackling childhood obesity. *British Journal of School Nursing* 2: 4. Scher PM, Kolotourou M, Chadwick P, Singhal A, Cole TJ, Lawson MS (2007) The MEND programme: effects on waist circumference and BMI in moderately obese children. *Obesity Reviews* 8: 12. Sacher PM, Kolotourou M, Chadwick P, Singhal A, Cole TJ, Lawson M (2006) Is the MEND programme effective in improving health outcomes in obese children? *International Journal of Obesity* 30: S41. Sacher PM, Kolotourou M, Chadwick P, Singhal A, Cole TJ, Lawson M (2006) The MEND programme: effectiveness of health outcomes in obese children. *Obesity Reviews* 7(S2): 89. Sacher PM (2005) Childhood obesity: consequences and control measures. *Journal of Family Health Care* 15(4, Suppl. 1): 4-5. Sacher PM Chadwick P, Wells JCK, Williams J, Cole TJ, Lawson M (2005) Assessing the acceptability and feasibility of the MEND programme in a small group of obese 7-11 year old children. *Journal of Human Nutrition and Dietetics* 18: 3-5. Sacher PM, Gray C, Lawson M (2005) The MEND programme is effective in reducing glycaemic load, total energy intake and waist circumference in a small group of obese 7-11 year old children. *Obesity Reviews* 6(Suppl 1): 121. Sacher PM, Hogan L, Chadwick P, Lawson M (2003) An integrated programme of nutrition, exercise and behavioural modification in a small group of obese 7-11 year olds. *Proceedings of Nutrition Society* 62(OCA/B): 3A. Sacher PM, Chadwick P, Hogan L (2002) The obesity epidemic. *The Journal of Family Health Care* 12: 111.

Scheme name	Evaluation, monitoring documents and other publications
On the Go	Focus group report - November 2007 (process evaluation) provided. Evaluation to be undertaken by Northumbria University.
SHINE (Self Help Independence, Nutrition and Exercise)	Submitted; awaiting publication. Lead author Dr Paul Dimitri. Summary has been provided.
Traffic Light Childhood Obesity Treatment Programme (Great Ormond Street Hospital)	Edwards C, Nicholls D, Croker H, Van Zyl S, Viner R, Wardle J (2006) Family-based behavioural treatment of obesity: acceptability and effectiveness in the UK. *European Journal of Clinical Nutrition* 60: 587-592.
Traffic Light Childhood Obesity Treatment Programme (Islington)	Evaluation process underway.
WATCH IT!	Rudolf M, Christie D, McElhone S, Sahota P, Dixey R, Walker J, Wellings C (2006) WATCH IT: a community based programme for obese children and adolescents. *Archives of Disease in Childhood* 91: 736-739. RCT underway. See also: Dixey R, Rudolf M, Murtagh J (2006) WATCH IT: obesity management for children: a qualitative exploration of the views of parents. *International Journal of Health Promotion and Education* 44(4): 131-137.
Y W8? Project	The Y W8? Project: Pilot study report in preparation.
Young PALS (Practice Activity and Leisure Scheme)	In preparation: Nationwide Children's Centre/Kirklees Council.

Appendix 6: JISCmail lists used

Topic area:	Lists mailed to:
Children	Child studies Child health Early childhood Paediatric nursing forum
Youth	Community youth work Youth study
Public Health	Community health Public health Public health intelligence UK Society for Behavioural Medicine
Health	Health promotion Health services research Health psychology Minority ethnic health Policy futures for UK health
Food	Food for thought Food study group
Evidence	Evidence based health Evidence use
Sport/exercise	British Philosophy of Sport Association Sport culture society Sports medicine

The following were not mailed to, since it was not possible to self-subscribe: *British feeding and drinking group, School health education. The Health and exercise sciences* list was not mailed to since the description stipulated that messages posted must be informative or discussion.

The results of this work are available in two formats:

REPORT Includes the background, methods and main findings

DATABASE Access to data we collected. Users are able to search the database to run their own reports

These can be downloaded or accessed at
http://eppi.ioe.ac.uk/mapchildobesityen

First produced in 2008 by:

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ISBN: 978-0-9559087-3-6

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