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Communities that cook

A systematic review of the effectiveness and appropriateness of interventions to introduce adults to home cooking

Report written by Rebecca Rees, Kate Hinds, Kelly Dickson, Alison O'Mara-Eves and James Thomas

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REPORT

The authors of this report are:

Rebecca Rees, Kate Hinds, Kelly Dickson, Alison O'Mara-Eves, James Thomas (EPPI-Centre)

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Conflicts of interest

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

Contributions

The protocol was developed by JC*, KD, AO, RR, CS* and JT. JC, KD, AO, RR and CS conducted searches. KD, KH, AO and RR screened studies, developed the data extraction tool and conducted data extraction, quality appraisal and synthesis. The report was written by KD, KH, RR and JT. (*Full names can be found under acknowledgements above).

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Executive summary

Background

The diets of many of the UK population are failing to meet recommendations aimed at avoiding ill health. While the influences on peoples' diets are multiple and complex, people who are socio-economically disadvantaged tend to have diets that are less healthy than the average. In response to a concern that opportunities to learn how to plan and prepare meals have been lost over the past few decades, there has been recent interest in community-based courses aimed at adults who want to learn to cook. This review aimed to identify the kinds of home cooking course that have been evaluated in the UK and to summarise findings from reliable evaluations.

Methods

Eighteen bibliographic databases were searched using a highly sensitive set of indexed and free-text terms. Authors and experts in the field were contacted with requests for reports. Web-based search engines were used and 39 websites were scanned. Relevant studies were scanned for other possibly relevant studies and were used to run citation searches.

Relevant studies were those that reported an evaluation of a course aimed at providing adults in the UK (aged 16+) with skills and knowledge about home cooking. They also needed to report findings about outcomes for adults, or about the way the training was delivered or received. Outcome evaluations needed to have used a comparison group design so as to compare outcomes for people who had received cooking training with outcomes for a similar group of people who had not received this training. Evaluations of processes needed to have described either their methods for data collection or their methods for data analysis. Evaluations of courses focused on academic or professional qualifications were excluded.

The initial searches identified approximately 11,700 potentially relevant reports. Most were from outside the UK, or were not about adult cooking courses. On closer inspection of over 200 paper reports, 13 studies were found to meet all the above criteria. (Five of these studies evaluated home cooking courses using a comparison group design and four of these had also evaluated intervention processes. A further eight studies had evaluated processes, but had no comparison group on which to compare outcomes.) All 13 studies were examined using a framework to describe key aspects, such as content of the training, population, outcomes targeted and the research design used. The characteristics of the process evaluations were tabulated and then described narratively.

Reviewers examined the outcome evaluations in greater depth. They worked independently, then compared decisions, with differences in opinion resolved by discussion with a third reviewer where necessary. The quality of each evaluation was assessed using criteria that addressed selection, attrition and reporting bias. Only one of the five outcome evaluations met all three sets of criteria and so was judged to be able to provide reliable findings about the effects of its intervention.

Findings

What kinds of home cooking courses have been evaluated in the UK?

The courses that have been looked at in evaluation studies appear broadly similar to one another. They all introduce participants to practical cooking skills, with some courses emphasising food safety and hygiene, and others shopping on a budget. They tend to be offered to existing community groups, rather than to individuals, and are usually run in community settings, which range from all-purpose centres to purpose-built community kitchens.

The courses vary in three main ways: (i) whether or not the content of the training sessions is tailored to the needs of people with specific illnesses, ethnic backgrounds or life stages; (ii) whether or not the initiative recruits people from the community who then teach others; and (iii) whether courses are initiated by research teams in order that they be evaluated, or whether the courses exist prior to evaluation.

In the three studies that provided a breakdown of costs per person of a full course, these ranged from £84 to £260 (for courses totalling 12 and 40 hours respectively). Costs were affected mainly by the length of the course and the extent to which the course tutors themselves were trained as part of the programme, as well as how much programmes paid for kitchen and, in some cases, crèche facilities.

The UK evaluation literature on home cooking courses is not well developed. Study reports often contained little information about the courses themselves; key details about evaluation methods were often missing.

There is interest in developing and providing such courses among a range of different organisations and agencies across the UK, offering the potential for further research in this area.

What is the evidence that courses make a difference?

The current evidence on the effects of home cooking courses for adults in the UK is inconclusive because of a lack of high-quality evaluations of these schemes.

The evidence on effects comes from one well-conducted evaluation of peer-led cooking clubs for people aged 65 or older in sheltered housing in socially deprived areas. This study suggests that cooking courses in this population might have beneficial impacts, but might also have less desirable effects.

The evaluation shows that a year after the course, participants had increased, beneficially, the percentage of energy they obtained from carbohydrate (2.4% more than people who had not attended a club). Less desirably, a year after the programme was completed, cooking club members were more likely to describe their diet as healthier than it actually was, compared to people who had not taken part in the clubs. There was no evidence that the cooking club had an effect on other aspects of diet, or on knowledge, attitudes or physical health, though it is possible that the study was too small to be able to detect such changes.

An evaluation of associated processes found that participants enjoyed these cooking sessions for largely social reasons. They thought it might be difficult to access some of the cooking ingredients under usual conditions. Participants appreciated learning from people of a similar age and authority. Not all clubs managed to start but attendance during courses was good. Some felt that 20 weeks of sessions was too long. Tutors needed to adapt the course to the physical abilities of participants and when kitchens had limited facilities.

In addition to this evaluation of a cooking course for people in sheltered housing schemes, four other studies were found that had compared people who took part in a course with people who did not (comparison group design). All four had constraints: in all four it is unclear whether or not initial differences between participants in the comparison groups affected measurements later on; in three of the four, participants also then withdrew from the studies in ways that, again, could have affected estimates of the home cooking courses' effects. Study authors described difficulties with recruiting participants and allocating them to study groups, as well as difficulties with participants dropping out before the study was completed.

Recommendations for policy and research

For policy

- Build rigorous evaluation into the provision of home-cooking courses, where possible, before roll-out.

For research

- Conduct evaluations of a sufficient size, with robust designs that can provide reliable evidence about impact.
- Consider allocating already existing clusters of participants to evaluation comparison arms (e.g. whole community clubs), rather than individuals. Courses and evaluation can then build on existing relationships and social supports.
- Ensure that sufficient resources and feasibility testing are built into the recruitment stages of evaluations.

Part I: Background and results of the review

1 Background

1.1 The challenge of poor diets in the UK

Food-related ill health has been estimated to account for about 10% of morbidity and mortality in the UK, similar to that attributable to smoking (Rayner and Scarborough 2005).

There has been considerable focus recently on ill health associated with obesity, with almost a quarter (24%) of people aged 16 or over in England classified as obese in 2008 (Craig et al. 2009). In addition to likely psychosocial impacts, having a very large body size is a risk factor for serious chronic diseases, including type 2 diabetes, cardiovascular disease, hypertension and stroke, as well as certain forms of cancer.

However, diet-related ill health in the UK is not just due to excess energy from food turning into body fat. The diets of large sectors of the population are failing to meet recommendations aimed at maintaining health and avoiding ill health more generally. Recent nationwide surveys estimate, for example, that only a third of adults are eating the five portions of fruit and vegetables a day recommended for obtaining vital vitamins and minerals (Bates et al. 2010). In addition, the average adult diet contains:

- too much salt (9.5 g per day) (Swan 2004). Guidelines recommend 6g. Too much salt in the diet is linked with high blood pressure, stroke and coronary heart disease;
- too much saturated fat (at 12.8% of food energy (Bates et al. 2010), compared with the recommended 11%). Diets rich in saturated fat are linked to cardiovascular disease;
- too little fibre, which is essential for healthy digestion and helps prevent bowel cancer (14g per day, compared with the recommended 18g) (Bates et al. 2010);
- too much added sugar, which increases the risk of tooth decay (at 12.5% of food energy, compared with the recommended 11%) (Bates et al. 2010);
- insufficient oily fish or equivalent source of the essential omega-3 fatty acid (the average diet includes just under half the recommended adult 140g portion of fish a week) (Bates et al. 2010).

There also are considerable inequalities in ill health related to diet across socio-economic groups in the UK. For example, type 2 diabetes, which is linked with high body weight, is one and a half times more likely to develop at any age in the most deprived 20% of the population compared with the average (Department of Health 2002). It is also significantly more common in people from some black and minority ethnic (BME) groups than the general English population (Sproston and Mindell 2006). People from various South Asian and Black Caribbean subgroups are also more likely to have cardiovascular disease, angina, heart attack and stroke (although this varies by age, gender, and ethnic group) (Sproston and Mindell 2006).

People with socio-economically disadvantaged backgrounds tend to have diets that are even further from healthy eating guidelines. A recent UK-wide survey found that adults with the lowest incomes (approximately the bottom 15% in terms of material deprivation) were more likely to consume fat spreads, non-diet soft drinks, meat dishes, pizzas, processed meats, whole milk and table sugar than the population as a whole. Diets for this group were, as a result, far higher in saturated fat, salt and added sugar. The average number of fruit and vegetable portions eaten per day among people in this group was between 2.4 and 2.5 (Nelson et al. 2007a), which compares with a 4.2 portion average for the adult population (19-64 years old) (Bates et al. 2011). People with a lower income were also often consuming lower amounts of vitamins and minerals. In particular, women aged 19-64 years and with a low income had lower mean daily intakes of total iron, magnesium, potassium and copper than women in the population as a whole. A larger proportion of women with a low income had levels below the lower reference nutrient intake (LRNI), which is the amount needed to avoid serious deficiency. Similarly, Black and Asian people in England tend to intake lower levels of vitamin A, folate, riboflavin, and calcium than White people, although this varies by ethnic group and gender (Nelson et al. 2007a).

1.2 Influences on diet

The influences on peoples' diets in the UK are complex and manifold (see, e.g., Green et al. 2009, Robertson et al. 2004, Wardle 2007, White 2007). These influences include:

- the availability and price of different kinds of foods;
- people's own dietary needs and preferences, and those of others in their household;
- the dominant food culture and practices among others with whom they interact (e.g. caring and other arrangements for distributing food within households and social groups);
- the extent and security of their financial resources (which affects the type and variety of affordable foods, and the equipment and space available for food storage and preparation, as well as the ability to plan food purchases);
- their physical ability to access and prepare food;
- the time they have available for purchasing and preparing food;
- their own knowledge, skills and confidence when it comes to planning and preparing meals.

The first and last of these types of influence have been the focus of much debate over the last couple of decades. The prevalence of unhealthy diets in the UK and other westernised societies has been linked in particular to increases in the availability of processed foods and pre-prepared and takeaway meals. These tend to contain a relatively large number of calories per unit of weight (energy-dense foods), as well as often being high in saturated fat, sugar and salt, and low in vitamins and minerals (NHS Information Centre for Health and Social Care 2010, NICE 2010, Prentice and Jebb 2003). A 2002 survey of the ready meals

market found that ready meals were consumed in 77% of British households (Mintel 2003). Over a quarter of those who consumed them used them more than once a week. Use was said not to differ greatly between people with different levels of income.

While recent detailed data are lacking, there has always been considerable variation in cooking practice in the UK. In an England-wide survey from 1993, 68% of women reported cooking daily, compared to 18% of men (Caraher et al. 1999). In addition, 7% of women and 25% of males reported that they did not cook from basic ingredients, or did not feel confident to cook in this way. Confidence varied with types of foods, and with people's socio-economic status. For example, confidence in cooking with oily fish, fresh fruit and vegetables, root vegetables and pulses was greater in higher income groups. The latest nationwide survey of people with low incomes found that, while 91% of women reported that they could cook a meal from basic ingredients without help, for men this was 64% (Nelson et al. 2007b).

There has also been concern that opportunities to learn how to prepare and cook food have been lost over the past few decades, leading to reduced skills, knowledge and confidence (e.g. Lang and Caraher 1996). As women increased their participation in the waged labour force, cooking lessons at school became the main source of culinary education for many. In 1993 nearly half of 16-19 year old men described learning to cook from classes at school (Caraher et al. 1999). At around the same time, the introduction of the English National Curriculum turned cooking into an optional part of Design and Technology education (Stitt 1996). Within the last decade, there has been criticism of secondary school provision for teaching cooking, with a lack of specialist teachers and teaching facilities cited in particular (Ofsted 2006).

1.3 Community-based initiatives to improve skills, knowledge and confidence for cooking

One of the responses to the above concerns has been the development of community-based educational initiatives aimed at adults who want to learn to cook. These are here referred to as 'home cooking initiatives'. Immediate objectives for these initiatives usually include both:

- increasing participants' knowledge (e.g. about different foods, healthy eating, food safety); and
- developing food-related skills (e.g. for mechanical techniques such as chopping/mixing, cooking and measuring, as well as for following recipes, meal planning and budgeting).

Jamie Oliver's 'Ministry of Food' initiative is perhaps the best-known home cooking initiative currently being provided in the UK, although large numbers of schemes have been set up across the country. These are generally funded and/or run by local councils, charities or lottery funding, although some receive additional funding or resources from the private sector. Often cooking classes have been part of a wider programme of developments that aim to address barriers to healthy eating and health more generally. These broader 'community food initiatives' also often emphasise links between food production and

consumption, and between food and environmental and social sustainability. They might also encourage the growing, sharing and marketing of food within communities, for example through community allotments, cafes and food co-operatives (e.g. Press 2004, Wall et al. 2009).

While one-off 'cook and taste' events can be set up, a more intense approach provides a series of training sessions to the same group of people over a period of time. To encourage the development of skills and understanding, participants are able to practise in the class itself, as well as listening to and observing tutors. There is an emphasis in some initiatives on participants extending their learning to a wider audience. This bears some resemblance to traditions of lay food and health workers within community-based food initiatives, where people are recruited and trained to provide outreach activities to others in their own community (e.g. Coufopoulos et al. 2010, Kennedy et al. 2008). The experience of learning in a group appears to distinguish these more recent attempts to provide adults with cooking skills and knowledge from services that largely provide support and advice about food and diet to individuals in their homes (e.g. Dowler et al. 2003).

1.4 Evaluating interventions

While various forms of home cooking courses have been tried out, and evaluations have been conducted (e.g. Williams and Dowler 1994), it appears that there has been no recent systematic attempt to pull together and appraise the findings of the range of evaluation studies that exists. This systematic review aims to address this gap. It examines the variety of home cooking initiatives that have been evaluated in the UK and what can be said with confidence about their effects on various outcomes and different populations of people, and what is helpful and problematic for their implementation.

Our review includes two different types of evaluation study: 'outcome' evaluations and 'process' evaluations. Outcome evaluations assess the impact of a given intervention (e.g. a cooking schools programme) on one or more results (e.g. dietary behaviour). Because of this requirement to identify a causal relationship, such studies need to demonstrate that any effect claimed is due to the intervention in question, and not due to other causes. The standard method for ascertaining such causal relationships is to compare, for example, the dietary behaviour of one group of people who received the intervention with an equivalent group of people who did not. We therefore require studies in our review to have employed a robust two-group design which gives us confidence that any effects claimed are due to the cooking programme being evaluated.

As well as determining whether an intervention had a stated effect, we are also interested in its *acceptability*, *reach* and '*implementability*'. Process evaluations enable us to understand these factors, as they examine how a given programme is received, whether there were any problems with implementation, and whether it was better suited to some groups of people than others. As their name implies, they examine processes and are thus able to help us understand how an intervention might be operating in order to achieve its results.

2 Aims

The review aimed primarily to gather and present the available research evidence on recent training initiatives that have introduced groups of adults in the UK to the basics of home cooking ('home cooking initiatives') so as to identify:

- programme effectiveness (i.e., evidence for an impact of home cooking initiatives on outcomes for participants, both positive and negative, which might include skills, knowledge, confidence, behaviours and health status, as well as participant costs); and
- programme appropriateness (e.g. which types of participant are attracted by these initiatives, which participants complete training, how acceptable are initiatives to participants and programme staff, what resources are required, what local factors appear to help or hinder the running of initiatives).

The secondary aim was to identify the main ways in which these home cooking initiatives vary. Both sets of findings should be of use for local authorities and other groups interested in implementing or refining their own home cooking initiatives for adults.

The work outlined in this report describes:

- A systematic search for, and the description and appraisal of evaluations of home cooking initiatives conducted in the UK;
- A synthesis of the findings of the subset of these evaluations where the evaluation used a design appropriate for identifying the effects of a cooking skills course; and
- A description of variation in the kinds of interventions that have been evaluated in the UK and the settings and populations that have been involved in those evaluations.

3 Research questions

The review addressed the following questions:

- What constitutes a home cooking initiative and how might these vary?
- What kinds of home cooking initiative have been evaluated in the UK?
- What are the effects of these home cooking initiatives on outcomes for participants?
- How do these effects differ for different types of participant, especially in terms of socio-economic and other kinds of disadvantage?
- What is known about the appropriateness and cost-effectiveness of these initiatives?

4 Review methods

The methods used to search for, identify, describe, appraise and synthesise studies relevant to the review are described in detail in Part II of this report (see Section 8).

A sensitive search strategy was developed that included searching 18 bibliographic databases and 39 websites and contacting over 30 key informants and experts. Reference lists were also scanned for potentially appropriate references. Studies were managed during the review using the EPPI-Centre's online review software EPPI-Reviewer 4.0 (Thomas et al. 2010).

To be included in the review, studies needed to be published from 1995 onwards and conducted among adults (aged 16 +) in the UK. Interventions being evaluated needed to contain both skills and knowledge components and be delivered to groups of people (and not be aimed at achieving an academic or professional qualification). We were interested in both the effectiveness of these programmes and in evaluations of their processes (e.g. drop-out rates, course satisfaction ratings, costs).

In order to assess the impact of the intervention, the evaluation needed to utilise a comparison group design; this maximises the likelihood that any differences in outcomes seen between the two groups later on are a result of participating in the intervention. The reliability of the studies we identified was assessed using standardised tools, and only those findings that were considered to be robust were included in our conclusions.

5 Findings

This review presents the available research evidence on the effectiveness and appropriateness of recent training initiatives that have introduced groups of adults in the UK to the basics of home cooking ('home cooking courses').

Detail of the flow of studies through the review can be found in Part II of this report (see Section 9). A total of 13 relevant evaluations were identified. Of these, only five used a comparison group design so as to compare outcomes for people who had received home cooking training with outcomes for a similar group of people who had not received this training. A further eight studies had not used a comparison group design, but had reported methods for an evaluation of processes, for example, in setting up or running the training, or the acceptability of the initiative to providers or recipients.

This chapter examines these 13 evaluation studies further in two separate sections:

- The first section provides an overview of some of the ways in which home cooking initiatives can vary by describing those evaluated in the 13 studies. It also maps out the evaluation approaches used to study each initiative.
- The second section focuses on the five evaluations that used a comparison group design and examines what can be said about the effectiveness and appropriateness of home cooking initiatives as a result.

5.1 The home cooking courses

All 13 of the home cooking courses aimed to teach cooking skills to low-income groups in order to improve diet and health. The 13 courses are listed in Table 5.1, along with a reference to the main report that describes their evaluation. Each report is assigned a number in the table, which is used to refer to the studies throughout this section. Appendix 1 summarises each course.

The first sub-section below describes the settings and development process for each course, so as to put each one into context. The ways in which course objectives and approaches differed are then described (see 'Course aims, content and methods'), as are the details available about intervention costs (see 'Home cooking course costs'). 'Course evaluations', then describes briefly the designs of the studies of all 13 courses.

Table 5.1: The 13 home cooking courses

	Course name/description	Main evaluation report
1	Asian Cookery Club	Snowdon (1999)
2	Community Cooks Scheme, Knowsley	Gregg and Ellahi (2005)
3	Cook 4 Life	Scott et al. (2010)
4	Cook it!	Conlon (2007)
5	CookWell	Wrieden et al. (2007)
6	CookWell II	Lawrence et al. (2006)
7	Friends with Food	Kennedy et al. (1998)
8	Food Club	Moynihan et al. (2006)
9	Food for Life	Symon and Wrieden (2003)
10	Get Cooking	Timmins and Lambden (2004)
11	Huntly Community Kitchen	Bird (2010)
12	Mediterranean Diet	McKellar et al. (2007)
13	Salford Community Food Workers	Coffey et al. (2009)

5.1.1 Course settings and development

All of the courses were provided in areas of social deprivation. All except one were provided in more than one site, which was usually a community centre. The exception was a project that consisted of a single purpose-built kitchen in the Scottish town of Huntly (11).

In several cases, courses were run at sites that were some distance from each other. CookWell II (6) operated across country boundaries in both Scotland and England. CookWell (5) ran throughout Scotland, Cook it! at various sites in Northern Ireland (4), and Cook4Life in two regions in England (3). Food Club (8) was a regional programme in the North East, Get Cooking (10) operated in a region of Wales, and Asian Cookery Clubs (1) was run in Bedfordshire. The remaining five courses, (2, 7, 9, 12, 13), operated in cities or large towns, with Food for Life (9) running in two cities (Dundee and Perth).

The earliest course was initiated in 1991 (7). Two reports did not state when courses started (1, 12), but the remainder were nearly all initiated a decade or more later: one in 2000 (5), two in 2001 (8, 9), one in 2003 (10), and four in 2004 (2, 4, 6, 13), with the most recent commencing in 2009 (3, 11).

The origins and methods for the development of the home cooking courses were not always reported in depth. Six were developed or adapted by university-based research teams who

had also been funded to conduct evaluations (5, 6, 7, 8, 9, 12). In the remainder, the evaluations were commissioned after the start of a project.

Five courses were described as modifications of earlier initiatives.

- Friends with Food (7) was adapted from the Expanded Food and Nutrition Educational Program (EFNEP). EFNEP is an American programme designed to help low-income populations to acquire the knowledge, skills, attitudes and behaviour necessary for nutritionally sound diets and thus to contribute to the improvement of the family diet.

- The Friends with Food programme was itself described as influential in the development of Cook it! (4).

- Cook 4 Life (3) used the Let's Get Cooking programme, developed by the School Food Trust. This programme was based on learning from the FSA's Cook it! (later renamed 'What's cooking?'), which, in turn, was based on Friends with Food, adapted from EFNEP.

- CookWell II (6) was a variation on CookWell (5), encompassing recipes from different cultures.

- Huntly Community Kitchen (11) based its courses on the Confidence to Cook resource pack developed by NHS Grampian.

Four courses were described as having been developed using a combination of research with people from the target communities, literature reviews, and consultations with experts (5, 6, 7, 8). Both CookWell (5) and CookWell II (6) were informed by focus groups with potential participants. Friends with Food (7) was developed through a needs assessment involving health visitors and other local field workers, and field tests were run to collect views from potential participants. The Food Club (8) was informed by focus groups and in-depth interviews with older people, health development officers from Age Concern and community Dietitians and community nutrition assistants. Educational materials and recipes were then developed in collaboration with a home economist and a dietitian. Prior to the evaluated version of the Food Club course, two pilot sessions of the course were run, using community nutrition assistants in place of peer tutors.

For five more of the courses, reports provided information about who was involved in development but were less explicit about the development process (1, 2, 9, 12, 13). In two cases (2, 13), this may be because the reports focused on the role of a community food worker. In both instances these food workers worked within a health promotion team of a local Primary Care Trust (PCT), and their training activities were expected to be responsive in ways that the prescribed courses delivered by other schemes were not. In one case, the material for the course grew out of collaboration between a research nutritionist and midwives (9).

For two other courses, nutritionists or dieticians are reported to have assisted with developing materials and training tutors (1, 12). Discussions with local community members

are also mentioned for the first of these. For the other four courses, no information is provided on what course development constituted, or who was involved (3, 4, 10, 11).

Course and evaluation funding were not always reported separately. The statutory sector was mentioned the most often, with the Food Standards Agency (FSA) mentioned in four evaluation reports (5, 6, 8, 10). Other statutory sector funders that were acknowledged included the Department of Health (3), health promotion boards or units (4, 7, 12) and local PCTs (2, 11, 13). Sometimes these acknowledgements also made reference to lottery funding (2, 4). Financial support was obtained from the Scottish Society of Physicians (12), the Chief Scientist's Office in Edinburgh and ASDA supermarkets (9). There was no reference to funding in the evaluation report of the Asian Cookery Clubs courses (1).

5.1.2 Course aims, content and methods

Four of the courses were aimed at the general population in deprived areas (2, 4, 5, 11). Three courses targeted parents, mostly mothers (3, 7, 13). The remainder were tailored to the needs of people at particular life stages or with specific illnesses or ethnic backgrounds, or to people in several of these categories. Two were aimed at young people (6, 10) and one (8) at older people. One course was developed for the needs of female patients with rheumatoid arthritis (12), and one worked with pregnant teenagers to improve their nutrition (9). Two courses were tailored to the needs of ethnic communities (1, 6).

Table 5.2 presents the number of courses that were described as covering specific subjects. All used practical sessions to improve participants' cooking skills. All but one (12) were described as emphasising healthy eating. Other topics included: food hygiene (1, 3, 4, 5, 6, 8, 9, 10); adapting recipes to make them healthier (1, 3, 7); budgeting skills (2, 9, 13); shopping skills (3, 4, 10); special dietary needs (9, 12); meal planning and knowledge about cooking equipment (3); and understanding food labelling, and tips for encouraging children to eat healthier food (13).

Table 5.2: Cooking course content areas

Subject	**No. of courses***
Practical skills	13
Eating healthily	12
Food hygiene	8
Adapting recipes to make them healthier	3
Budgeting skills	3
Shopping skills	3
Special dietary needs	2
Other	2

*Total does not add up to the total number of courses (n=13) because courses could cover more than one subject area.

In terms of overall hours of contact with tutors, most courses were between 12 and 20 hours long, with the shortest appearing to be six hours (1) and the longest (8) 40 hours. Most were 6-10 weeks long (4, 5, 6, 7, 9, 10, 12, 13), with the longest running for 20 weeks (8). The shortest courses were 3 sessions long (1, 3). The length of courses was variable in two cases (2, 11) due to the flexible nature of what was offered. Five studies reported a duration of 2 hours for each session (1, 5, 7, 8, 12). Two reported sessions lasting two to three hours (6) and an afternoon (9). Session length for the remainder varied (2, 11) or was not reported (3, 4, 10, 13).

Courses could have more than one kind of tutor, although only one report explicitly described more than one tutor working at any one time (10). Table 5.3 lists the numbers of courses using different kinds. The most common approach was to use tutors who were likely to know about the local community. These included people who worked either in community venues or for communities that hosted or requested the sessions (2, 3, 4, 5, 6, 13). They included Sure Start staff (3), as well as people who were employed as community food workers (2, 13). The role of the community food worker was to communicate health messages in accessible ways and to help people develop the practical skills for shopping, budgeting and cooking, in order to be able to eat more healthily on a budget. Four projects recruited volunteers from the community, who then received training to become tutors (1, 4, 8, 10). In two cases, tutors from ethnic groups were recruited who could speak a community language (1, 6).

In contrast, other projects employed people largely for their existing professional skills. These included food professionals, either from a catering (11), or nutrition (7, 12) background, and teachers from local colleges (12). One cooking programme for pregnant teenagers trained midwives as tutors (9). On a couple of the projects the researchers themselves took on a role in delivery (5, 6).

Table 5.3: Types of tutor used in the cooking courses

Type of tutor	**No. of courses***
Community worker (includes community food workers)	6
Peer tutors /volunteers	4
Food professionals	4
Researcher	2
Other (midwives)	1

*Total does not add up to the total number of courses (n=13) because courses could involve more than one kind of tutor.

Tutor training was sometimes mentioned but not described in any detail (9, 12, 13). When training was described, it varied from 1 or 2 days (1, 3, 4), to a day a week for 13 weeks (8). Other tutor characteristics were also often not described in detail.

The techniques used for teaching and learning were rarely described in any detail in evaluation reports. In several instances, appendices with supporting material were missing from published reports (e.g. 6, 8). Most courses appear to have provided structured lectures of some sort with discussion, although one report (1) described cooking sessions that were run on an informal basis by a facilitator who provided recipe cards and encouraged discussion. Handouts, recipe cards and other kinds of written material were used (e.g. 1, 3, 4, 7, 8, 9, 10, 11, 12), as was a participant quiz (4). In some cases, course participants all ate a meal together at the end of each session (e.g. 6, 10); in others, there were only food tastings (e.g. 1, 4, 12).

Some reports detailed support structures and incentives for course participants. These included crèches (e.g. 3, 6, 11), transport expenses (4, 9) and fridge magnets (3). In only three cases is it stated who paid for course cooking ingredients (6, 8, 9). Ingredients were provided as part of the course in all three. In one of these cases (9), supermarket vouchers were also provided.

The majority of the courses were run in community venues, with children and family centres being mentioned by four studies (2, 3, 5, 13). One course was run in kitchens in sheltered housing (8) and one in youth centres and a homeless unit (10). Only one project ran courses in a purpose-built kitchen (11).

Participants were recruited through existing community groups for the most part. The exceptions were the two projects linked to hospitals (9, 12), where individuals were targeted because of a condition or illness. Some projects (e.g. 4) used taster sessions to introduce the idea of a longer course.

5.1.3 Home cooking course costs

Course costs were described in only five cases (3, 4, 6, 8, 12). Only three evaluation reports provided a breakdown of costs per person and/or per session.

The Mediterranean diet cooking course, which ran for a maximum of ten participants per group, cost £84 per person. This was for a course of six weeks of weekly two-hour sessions (a total of 12 hours) (12). No further breakdown of this cost was provided.

CookWell II was reported to have cost an average of £160 per person for the entire course of eight weekly sessions of two to three hours (a total of 16-24 hours). This course was provided each time for between four and eight participants. The group leader cost between £35 and £50 per session and food from £15 to £25. Costs for the CookWell II courses run in Luton were twice those for Dundee, mainly because of different prices for kitchen hire and crèche support (p 38, 6).

The amount required to run each Food Club (for between 8 and 12 participants) was reported to be £130 per 2hr session for each of 20 weeks (p134, 8). This equates to approximately £260 per person for a course of 40 hours. Unlike the previous two cases, this course's evaluation report included not only the costs of running the food clubs themselves, but also the set-up costs of training tutors. The tutors in this case had to have a non-professional background so they would be peers with those they taught. These set-up costs

came to approximately £700 for each of the programme's 22 peer tutors. This covered three month's salary for the peer tutors' trainer, who was a research nutritionist, as well as the salaries of the peer tutors while they trained. It also included £100 per peer tutor for registration fees and a hygiene certificate. Each of the peer tutors was then employed for approximately eight hours a week to provide the Food Clubs, at an hourly rate of £4.50 (p26). This provided cover for 13 different Food Club venues. The course venues (sheltered housing scheme kitchens) appear to have been provided for free and food cost just under £18 per session.

5.1.4 Course evaluation

All of the 13 studies included in this review measured outcomes for participants. However, only five used a comparison group design to evaluate outcomes. These five studies are discussed further in section 5.2 below, with additional detail provided in Part II of the report.

All but one (12) of the 13 studies included in this review evaluated course processes. An overview of these process evaluations (but not their findings) is also presented in Part II (see section 10). Appendix 2 describes the evaluation conducted for each course. The findings of one process evaluation (8) are reported below in section 5.2.2.

5.2 Effectiveness and appropriateness of UK home cooking schemes

This section focuses upon the five evaluations that used a comparison group design and examines what can be said about the effectiveness and appropriateness of home cooking initiatives as a result of these studies. It starts by summarising the reviewers' ratings of each study's design and methods against the review's three criteria for avoiding bias ('Overall judgements on methodological quality'). It then presents the findings of the one study that was judged to have met all three of these criteria ('Findings about effectiveness and processes').

5.2.1 Overall judgements on methodological quality

The five studies varied considerably in their methodological approaches. A full description of the studies' designs, methods and participants can be found in Part II of this report (see section 11). Summaries, that describe each study in a structured way are presented in Appendix 3.

Four of the five studies (5, 6, 7, 12) were each considered to have methodological limitations that made it impossible to determine with any confidence whether findings about outcomes could be attributed to the cooking courses concerned. All four were judged by reviewers to have failed to avoid one or more of selection, attrition or reporting bias (see Table 5.4).

Table 5.4: Summary of judgements on evaluation quality

Study	Selection bias avoided	Attrition bias avoided	Selective reporting bias avoided
Wrieden et al. (2007) (5)	No	No	Yes
Lawrence et al. (2006) (6)	No	No	No
Kennedy et al. (1998) (7)	No	No	No
Moynihan et al. (2006) (8)	Yes	Yes	Yes
McKellar et al. (2007) (12)	No	Yes	Yes

In four studies, reviewers judged that it was unclear whether or not initial differences between participants in the comparison groups might have affected measurements later on (possibility of selection bias). None of the four evaluations involved random allocation to study arms. Three (5, 6, 7) were judged to have provided insufficient information about baseline measures for key outcomes and socio-demographic variables. In one of these studies outcomes data at baseline were not reported at all (7). In the other two, they were presented only for a subset of participants (5), or it was unclear which participants the data related to (6). Authors in the fourth study (12) found a significant difference at baseline in participants' socio-economic status. Individuals who were assigned to the cooking class arm of the study were more likely to live in the more socially deprived areas covered by their study.

In three studies, participants also then withdrew from the studies in ways that, again, could have affected estimates of the effects of the home cooking courses (possibility of attrition bias). In two cases, the number of participants who dropped out at later points in the study was not reported separately for each of the study arms (6, 7). In one of the three, it was possible only to determine attrition rates from the study as a whole at the six-month follow-up point (5). At 44% overall, this was high.

In two studies (6, 7) reviewers judged it to be unclear as to whether the authors reported all of the outcomes described in their studies' aims (possibility of outcome reporting bias).

Only one study, by Moynihan and colleagues (8), was judged to have met all three of this review's criteria for avoiding bias. In this study, as for Wrieden and colleagues' study (5), baseline data for most outcomes were only reported in full for individuals who also provided outcomes data at later time points. However, random allocation was used to create the evaluation's two study arms. In addition to this, the spread of age, gender and level of social deprivation at the start of the study was described separately for the two arms (p31) and participants' data at baseline were taken into account in the study's analyses of later measurements. Despite delays of up to five months between recruiting sheltered housing

schemes and collecting baseline data, outcomes data were collected at both follow-up points from a relatively large proportion of the schemes initially allocated within the study. Also, attrition at both the cluster and individual level did not appear to be different between the two study arms. The findings about intervention impacts from this one study are presented in the next section.

This same study (8) had conducted an evaluation of intervention processes alongside its evaluation of participants' outcomes. The reviewers' appraisal of this process evaluation found that it took some steps to increase rigour when sampling both participants and peer tutors, when collecting data on their views, and when analysing the data that resulted. Reviewers also found that the findings were reasonably well grounded/supported in the data presented.

For example 20 of the 22 peer tutors were interviewed (although it would have been valuable also to have had the views of the two tutors who did not complete the Food Club programme). Interviews were held both prior to and immediately following the peer tutors' training and then again after they had delivered the Food Club courses. The study authors aimed to interview a representative 20% sample of all course recipients. In addition to formal interviews, informal discussions were held during several observational visits to the Clubs. All individual interviews were audio-taped and transcribed, and thematic, as well as question-by-question analysis, was conducted. Quotations were supplied to support findings, and labelling of the quotations identified that a range of participants, of both genders, were interviewed from a variety of Food Clubs.

This study's findings about intervention processes are also presented in the next section.

5.2.2 Findings about effectiveness and processes

The evidence on effects comes from one well-conducted evaluation (Moynihan et al. 2006) of peer-led cooking clubs (Food Clubs) for people aged 65 or older in sheltered housing in socially deprived areas (8). After a brief summary of the Food Club course and its evaluation, this section presents an overview of this one evaluation's findings about impacts on people who signed up for the course, and its findings about how the scheme was received by those involved. Additional details about this intervention are available in section 5.1 above, and in Appendix 1. Additional details about the course's evaluation can be found in Section 11 in Part II of this report.

The aim of the Food Club cooking course was to improve participants' dietary knowledge, attitudes and practices. Local people aged 60+, without a professional background in health, were recruited to run the Clubs. They were trained for 13 weeks. Food Club sessions, which included training focused around practical skills, food hygiene and eating healthily, were run for 2 hours every week for 20 weeks. Participants in the study's comparison arm received hand massages and/or nail treatments from a visiting beauty therapist.

The evaluation aimed to test the effect of the Food Club on dietary knowledge, attitudes and practice. Details of the study were made available in the sheltered housing schemes and recruitment meetings were set up whereby participants could volunteer and consent to take part on the basis that they might or might not receive the course.

A wide range of outcome measurements were made. Measures were taken at baseline, after 20 weeks and at 12 months.

Measurements of participants' diets consisted of: intake of non-starch polysaccharides; % energy from total fat, carbohydrate, sugars and proteins; intake of micronutrients (vitamin C, D and folate, iron and calcium); intake of fruit and vegetables; and the mean daily intake of foods belonging to the food groups of the Food Standards Agency's Balance of Good Health).[1]

Measures of physical and mental health included participants' bowel movements, Body Mass Index and general well-being (using the SF 36[2]), as well as laxative and health service use. A wide range of attitudes and beliefs about nutrition and health were measured, including perceptions of behavioural control intentions, cognitive and affective attitudes, perceived need and benefits, attitudes to cooking and healthy eating, and perceptions of social norms and influences on foods eaten. Knowledge about nutrition and food safety were also measured, using a battery of questions.

In terms of outcomes, reviewers judged that no significant differences were found between participants in the two arms of the study at 20 weeks (immediately following the Food Club course) for any measures.

From the data reported, reviewers agreed that a year after the course, participants had increased the percentage of energy they obtained from carbohydrate (2.4% more than people who had not attended a club).

In addition, however, reviewers agreed with the report authors' findings that, a year after the course, cooking club members had undesirably lower levels of Vitamin D in their diets. Vitamin D levels had already been low in participants at baseline (2.6g/d, which compares poorly with the Reference Nutrient Intake of 10g/d). At 12 months, vitamin D intake had increased in the control group, but had fallen further in the Food Club group. Reviewers, however, considered that this was of relatively low practical significance, since most Vitamin D is obtained through routes other than food.

A year after the course had completed, course participants were also, undesirably, more likely to describe their diet as healthier than it actually was, compared with people who had not taken part in the clubs.

The reviewers agreed with the study's authors that there was no evidence that the Food Club had an effect a year after its delivery on any other aspects of diet measured. Reviewers judged also that there was also no evidence of any effect at this time on knowledge, attitudes or physical health.

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[1] http://www.food.gov.uk/multimedia/pdfs/nutguideuk.pdf

[2] http://www.sf-36.org/

An evaluation of associated processes found that participants enjoyed these cooking sessions for largely social reasons. They thought, however, that it might be difficult to access some of the cooking ingredients under usual conditions. Not all were able to get to supermarkets. Participants were also concerned about buying small quantities so as to avoid waste when cooking for one. The research team heard from both tutors and participants about some friction over reminders in classes about hand washing. Some tutors and participants felt that 20 weeks of sessions was too long.

The peer tutors were also generally happy with their training, although some criticised their mandatory hygiene training as too long and uninterrupted, and some would have liked more hands-on practice, in terms both of running groups and producing specific dishes. Some Food Club peer tutors reported having to deal with 'some minor tensions' that could 'test out the peer relationship' and described working with some people whom they considered to be challenging (p120). However, peer tutors were described as 'overall … very positive about their experiences of running the clubs and the responsiveness of the participants to the social experience offered' (p132). Participants themselves appreciated learning from people of a similar age and authority.

With respect to implementation, not all clubs managed to start. This was described as due to a lack of motivation by volunteers. Some limitations were reported in the space and availability of equipment in some of the sheltered housing scheme kitchens, and this sometimes raised concerns about participant safety. Tutors found that they needed sometimes to adapt the course in response to these limited facilities, as well as to the sometimes restricted physical abilities of participants.

In terms of reach to the full range of participants, attendance during courses was good, with absences described as 'usually due to medical appointments or illnesses' (p121).

6 Discussion, conclusions and recommendations

6.1 Discussion

This is the first review that we are aware of that sets out systematically to identify, describe and appraise evaluations of training initiatives that have introduced groups of adults to the basics of home cooking. We came across one further review that used systematic searches to look for evaluations of cooking courses, but these were courses aimed at children (Seeley et al. 2010).

The searches conducted for this review were very extensive, but we encountered a large number of reports which were not published in peer reviewed journals. Of the five course evaluations that we found that used a comparison group design, only three were found by searching bibliographic databases (Kennedy et al. 1998, McKellar et al. 2007, Wrieden et al. 2007). Reports for the other two (Lawrence et al. 2006, Moynihan et al. 2006) were held solely on organisational websites, and the second of these was only found by checking the reference lists of other reports. Contact with experts in the field makes it likely that we identified all completed evaluations of home cooking courses that have used a comparison group design. However, it is possible that we missed other formal evaluations of the processes that influence course provision and outcomes. At the time of writing this review, we are aware of three recently completed evaluations that were not reported publicly at the time of this review's searches.[3]

The limitations of this review largely stem from the evidence base itself. Of the thirteen evaluations found, only five had used comparison group designs, which make it easier to know whether changes are due to a cooking course per se, or to other influences. Of these five, all but one had major constraints: in all four it is unclear whether or not initial differences between participants in the comparison groups affected later measurements; in three of the four, participants also then withdrew from the studies in ways that, again, could have affected estimates of the home cooking courses' effects. The fifth study that avoided these constraints (Moynihan et al. 2006), still lost a significant number of its initial participants. This left it potentially too small to be able statistically to identify impacts on course participants.

[3] One used a comparison group design with random allocation of families to one of three comparison groups. These received: i) a one-off, two-hour education session; or ii) four, two-hour 'cook and eat' training sessions over six weeks; or iii) a combination of (i) and (ii) along with personalised goal setting. This study was conducted as part of the Family Food and Health Project at Newcastle University (since published as Curtis et al., 2011). The other two used single group designs. One is an evaluation of cooking courses (Can Cook) run alongside a community café as part of a social enterprise in Speke, near Liverpool (reported in Caraher et al., 2011); the other is an evaluation of the Welsh Cooking Bus initiative, which provided courses for children and adults through schools (conducted by Jeremy Segrott and colleagues at Cardiff University).

The existence of the last of these studies, however, identifies that it is possible to design robust evaluations of home cooking courses. We also identified other evaluations with this kind of design conducted in the USA (e.g. Burney and Haughton 2002) that were not critically appraised as part of this UK-focused review. Researchers and organisations who are planning home cooking courses and need to find out more about the strengths and weaknesses of different kinds of evaluation designs, and their practical implications, may benefit from contact with relevant research initiatives that aim to develop and evaluate complex public health interventions, such as the DECIPHer Centre in the UK.[4]

The reports from these studies of high drop-out rates and difficulties in creating balanced comparison groups raise questions about optimal designs and techniques for evaluating home cooking initiatives. Problems with recruiting sufficient participants in two studies (Moynihan et al. 2006, Wrieden et al. 2007), delays in the recruitment stage of one (Moynihan et al. 2006), and the unexpectedly low availability of potential participants in another (McKellar et al. 2007), suggest the need for sufficient resourcing and pilot testing of recruitment before full-scale evaluation. Similarly, the splitting of existing groups so as to produce comparison arms, seen in two evaluations (Lawrence et al. 2006, Wrieden et al. 2007), may well have created differences between groups right at the study start. Potential evaluators would benefit from comparing this kind of design with that used in Moynihan and colleagues' study and others, where existing groups of people were allocated en mass (Murray 1998). Another criticism of community-based studies is that they can rely overly on participants' reports of their own behaviours (self-report) and this can affect estimates of impact. It can be helpful to consider the benefits and costs of self-report approaches alongside those of other, more direct measurement techniques such as observation (see Natarajan et al., 2010).

We aimed to explore in this review the effects of UK-based home cooking courses and how these varied for different kinds of participant, in particular those experiencing socio-economic and other kinds of disadvantage. Because of the limited numbers of rigorous course evaluations, findings are limited to one study of peer-led courses for people aged 65 and over living in sheltered housing schemes in areas of high social deprivation. It is unclear how the findings about this course can be applied to other groups in UK society. Provision of a course in the very location in which people live, for a start, is likely to be more accessible for potential participants. Younger people are more likely to need to be able to cook for family members, and generally to have different commitments than this group. They might also be expected to have different kinds of knowledge, skills, abilities and preferences when it comes to nutrition and cooking.

We also hoped that this review might be able to address questions about the appropriateness of home cooking interventions and their cost-effectiveness. We found several evaluations that might provide findings about the acceptability of courses, their reach, and factors affecting implementation, for readers who are interested in pursuing this.

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[4] DECIPHeR: Centre for the Development and Evaluation of Complex Interventions for Public Health ImpRovement, http://www.decipher.uk.net/

However, interpretation of findings about processes is likely to be challenging, given that the courses themselves are not always described in much detail. We had hoped to be able to use frameworks created to describe different categories of behaviour change technique (e.g. Abraham and Michie 2008), but very few reports described the actual content and format of classes. The findings from the one robust study show that courses can be enjoyed and valued by participants and peer tutors alike. However, tutors might need to modify course plans to suit varied facilities and the physical abilities of participants. Again, however, it is unclear how these findings about appropriateness can be applied to other kinds of course. Also, there was often insufficient information given for us to estimate the costs of interventions accurately, and we did not find any cost-effectiveness analyses. Costs data are available from this and two additional courses, but a full exploration of cost-effectiveness requires reliable data about effects, which is currently lacking.

Despite previous limitations in evaluation methods, there appears to be a good level of interest in home cooking courses for adults. While the extensive searches conducted for this review identified only 13 usable evaluation studies, we came across a far larger number of reports and websites that described home cooking courses. The literature that we found also identifies that interest in evaluating such courses reaches some way back. The review was restricted to studies produced since 1995, and most of the studies that we found had evaluated initiatives that had been initiated in the last ten years. However we found one evaluation of a course implemented almost twenty years ago (Kennedy et al. 1998). This was itself described as a development from a US-based initiative designed for low-income populations that has been running since the late 1960s.[5]

6.2 Conclusions

This systematic review finds that the current evidence on the effects of home cooking courses for adults in the UK is inconclusive because of a lack of high-quality evaluations of these schemes.

The evidence on effects comes from one well-conducted evaluation of peer-led cooking clubs for people aged 65 or older in sheltered housing in socially deprived areas. This study suggests that cooking courses in this population might have beneficial impacts, but might also have less desirable effects.

The courses that have been looked at in evaluation studies varied in three main ways: (i) whether or not the content of the training sessions was tailored to the needs of people with specific illnesses, ethnic backgrounds, or life stages; (ii) whether or not the initiative recruited people from the community who then taught others; and (iii) whether courses had been initiated by research teams in order that they be evaluated, or whether the courses existed prior to the evaluation. All of the courses introduced participants to practical cooking skills, with some courses emphasising food safety and hygiene, while others focused on shopping on a budget. They tended to be offered to existing community groups, rather than

[5] See http://fcs.tennessee.edu/efnep/default.htm

to individuals, and were usually run in community settings, which ranged from all-purpose centres to purpose-built community kitchens.

The costs per person for a full course, when reported, ranged from £84 to £260. They were mainly affected by the length of the course, and the extent to which the course tutors themselves were trained as part of the programme, as well as how much programmes paid for kitchen and crèche facilities.

The UK evaluation literature on home cooking courses is not well developed. Study reports often contained little information about the courses themselves. Key details about evaluation methods were often missing. There is however, clearly an interest in developing and providing such courses among a range of different organisations and agencies across the UK, offering the potential for further research in this area.

6.3 Recommendations for policy and research

6.3.1 For policy

- We found that there is a lack of rigorous research into home cooking courses in the UK. We therefore recommend building rigorous evaluation into the provision of such courses, where possible, before roll-out.

6.3.2 For research

- Some relevant interventions were identified, but their evaluations were not sufficiently robust for us to include their findings, and studies appeared to be statistically underpowered. We therefore recommend conducting evaluations of a sufficient size, with robust designs that can provide reliable evidence about impact.

- Because authors reported challenges in separating community groups, we recommend that researchers consider allocating already existing clusters of participants to evaluation comparison arms (e.g. whole community clubs), rather than individuals. Courses and evaluation can then build on existing relationships and social supports.

- Because authors reported challenges in recruiting participants, we recommend that researchers ensure that sufficient resources and pilot testing are built into the recruitment stages of evaluations.

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Part II: Technical description of the review

8 Review methods

This section of the report describes the methods used to search for, identify, describe, appraise and synthesise studies relevant to the review. Presentation of this information encourages transparency and helps to open up the review's methods to scrutiny.

8.1 User involvement

Plans for this review were developed in conjunction with policy makers and researchers at the UK Department of Health. The short (seven month) timeframe of the review did not permit a formal consultation with local authorities or other potential users of the review.

At an initial meeting at the Department of Health, the review team were asked to look at evaluations of both outcomes and processes. The number and kind of evaluations found were discussed at a second meeting, and the review team were asked to prioritise work on appraising and reporting studies that used a comparison group design to examine impacts on outcomes.

8.2 Search strategy

A sensitive search strategy using both indexed and free-text terms was developed. Eighteen bibliographic databases and 39 websites (including specialist registers and library catalogues) were searched. Limited searches were conducted using Google and Google Scholar. Over 30 key informants and experts were contacted with requests for relevant research. Reference lists were scanned for relevant reports and included studies were used to identify further studies that had cited them and so were also potentially relevant (forward citation searching). Further details of the study's searches are presented in Appendix 4.

Studies were managed during the review using the EPPI-Centre's online review software EPPI-Reviewer (version 4.0) (Thomas et al. 2010).

8.3 Eligibility criteria

To be included in the review, studies needed to meet all of the following criteria:

Date: Studies reported from 1995 onwards. This cut-off date focused the review on relatively recent evaluations. It falls five years after the introduction of the National Curriculum for England in 1990, which affected opportunities for people to obtain practical cooking skills at school.

Geographical location: Studies conducted in the UK only.

Population: The initiative or programme needed to involve adult participants. For the purposes of this review, adult is defined as aged 16 years or above.

Intervention

- Content: the initiative under study needed to contain both a skills component that concerned how to cook (skills for preparing food) and a knowledge component that dealt with what to cook.

- Medium: the initiative needed to be delivered to groups of people. That is, it should not solely involve one person advising or training another, for example, as part of a home visit.

- Learning outcomes: learning should not be aimed at achievement of an academic or professional qualification.

Outcomes or processes: Studies must collect outcomes data (i.e., effectiveness or cost-effectiveness data) and/or process data (e.g. drop-out rates, course satisfaction ratings, costs) for adults aged 16+.

Research design: a study needed to evaluate outcomes using a comparison group design and/or processes, where:

- An outcome evaluation is defined as a study which is designed to answer questions about the effectiveness of particular interventions in changing specified outcomes. Evaluations which use a comparison group design do this by comparing the outcomes of people who receive an intervention (treatment arm) with the outcomes of people who do not (comparison arm). If the people in the two study arms are similar at the study start it is more likely that any differences in outcomes seen between the two arms later on are a result of participating in the intervention.

- A process evaluation is concerned with the ways in which interventions are delivered, including how interventions work, or do not work, with whom and why.

Reporting data: the study must report findings.

Sufficient reporting: studies need to have described either their methods for data collection or their methods for data analysis.

8.4 Screening for eligibility

Reviewers piloted the eligibility criteria by applying them to a subset of 25 studies and discussing decisions as a team. Following this, a two-stage process was used to screen studies. Eligibility criteria were initially applied to titles and abstracts identified through searching. Where no abstract was available from bibliographic database records, an attempt was made to retrieve the full paper. Studies included based on their title and abstract alone were subsequently re-screened using the full report. Quality assessment of the screening process was carried out in pairs (RR, AO, KD) using a sample of 94 records. The eligibility criteria are presented in section 8.3 above.

8.5 Characterising the studies and extracting their findings

Two types of study remained after applying the criteria listed above. Given constraints on time, and in line with the priorities of potential review users at the Department of Health noted above, the two types of study were treated differently, as follows:

- The studies that had evaluated the effectiveness of a home cooking course using a two-group design were examined in depth so as to identify reliable findings about course effects. Reviewers used a modified version of a data extraction tool (Peersman et al. 1997) used in several published systematic reviews (e.g. Brunton et al. 2005, Harden et al. 2001, Rees et al. 2006, Shepherd et al. 2006). This tool contains questions about the study's aims, sample and methods, and guidance for appraising study quality (see immediately below). Two reviewers independently described the methods and assessed the quality of each study. Differences in opinion were resolved by discussion that sometimes included a third reviewer.

- The studies that had not used a comparison group design, but had explored course processes, were not critically appraised. The aim was to have sufficient information to be able to draw up an overview of the kinds of home cooking course that had been evaluated in the UK and the processes explored in their evaluations.

- Information about both types of study was gathered by using a set of predetermined questions developed specifically for this review. The areas covered included the study design, the course context, aims, content and staff. These questions were addressed by one reviewer. Another reviewer, who had read all of the studies, checked for accuracy.

8.6 Appraising the quality of study findings

8.6.1 Appraisal of outcome evaluations

The quality of the outcome evaluations that used a comparison group design was assessed using a set of criteria devised by the EPPI-Centre in consultation with a statistician (Shepherd et al. 2003). The criteria are designed to assess key biases to the results of outcome evaluations, based on empirical methodological research, and were used in a previous published systematic review (Shepherd et al. 2010).

Findings were extracted from the studies only if they were judged to have avoided the following three kinds of bias:

1. Selection bias

Studies needed to have either: i) allocated participants using an acceptable method of randomisation; OR ii) reported baseline values of major prognostic factors for each group for virtually all participants as allocated AND ensured that baseline values of major prognostic factors between groups were balanced in the trial OR adjusted for imbalances in the analysis.

2. Attrition bias

Studies needed to report their attrition separately according to allocation group. Also, they should have an attrition rate that differed by less than 10% between groups and less than 30% overall OR baseline values for major prognostic factors that were balanced between groups for all those remaining in the study for analysis.

3. Outcome reporting bias
Studies needed to report all the outcomes they intended to measure as described in the aims of the study.

8.6.2 Appraisal of process evaluations

If a study met all of the above criteria for avoiding bias in evaluating outcomes, and had also evaluated processes formally, then the study's evaluation of processes was also appraised for its quality. The criteria used for this appraisal have been used in one previous review (Shepherd et al. 2010) and were based upon previous work assessing the quality of process evaluations and qualitative research conducted by authors from the EPPI-Centre and others (see Harden 2007a, 2007b, Popay et al. 2003). The criteria include items that assess the steps taken to minimise bias and error or increase rigour in: (i) sampling; (ii) data collection; and (iii) data analysis; and the extent to which: (i) findings were grounded in/supported by the data; (ii) there was good breadth and/or depth achieved in the findings; and (iii) the perspectives of participants were privileged. For full details of these criteria, see Shepherd et al. (2010).

8.7 Describing and synthesising study findings

Only one study was included in the synthesis. The detail of and findings for this study were reported in a narrative form.

8.8 Deviations from the review's protocol

The methods described in this chapter are the same as those described in the review's protocol, which was published prior to the review on the EPPI-Centre's website in April 2011, with the following two exceptions:

- The eligibility criteria initially included a requirement that evaluations should not be of a cooking course 'for people who already have basic cooking skills or knowledge'. In practice, study reports specified the skill and knowledge level of the populations at which courses were aimed only very rarely, and so this requirement was dropped.
- The protocol specified that a different set of criteria would be used to appraise the quality of outcome evaluations. The criteria ultimately used are a more recent development of the criteria specified in the protocol.

9 The flow of studies through the review

Our searches identified a total of 15,085 citations. After removing 3,420 duplicates, the titles and abstracts of 11,665 records remained. Full reports were obtained for 208 of these records; the rest were screened using title and abstract alone. The majority of reports did not meet the eligibility criteria or could not be obtained in time and were excluded from the review (N=11,652; 99.8%).

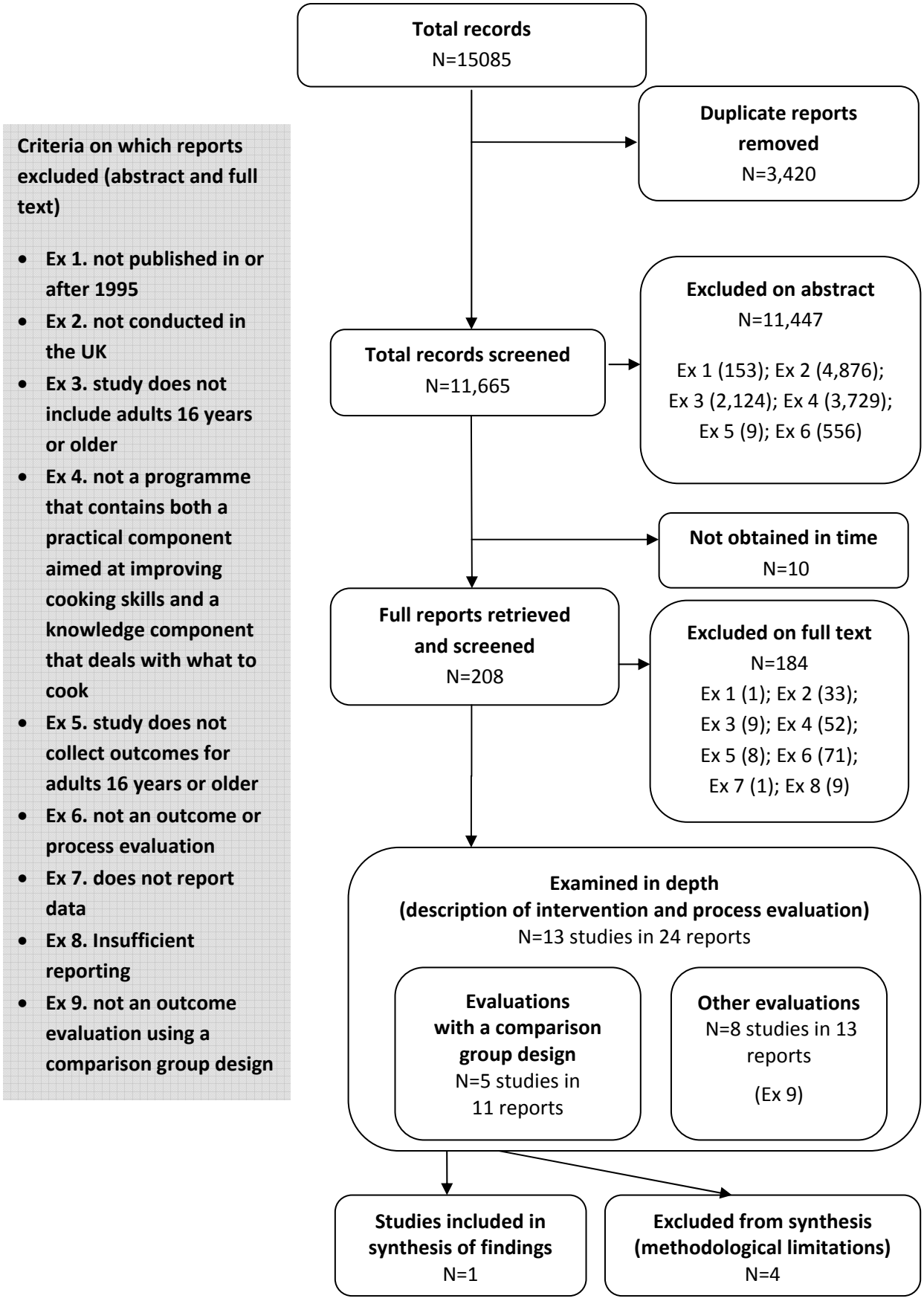
Most studies were eliminated because they were not conducted in the UK (N=4,909; 42%). A high proportion of studies were also excluded because they did not investigate a programme that contained both a practical component aimed at improving cooking skills and a knowledge component that dealt with what to cook (N=3,781; 32.4%); or because they did not include adults 16 years or older (N=2,133; 18.3%); 627 reports (5.4%) were excluded because they were neither an outcome evaluation (using a comparison group design) or a process evaluation; and 154 (1.3%) because they were conducted in or before 1995; 17 reports were excluded because they did not collect outcomes for the population of interest (adults 16+); nine were excluded because they did not report their methodology in sufficient detail, and one study collected but did not report its outcome data. A total of 10 reports could not be obtained within the timescale of the review (before June 2011). At this stage, a number of reports were found to be linked to others, in that they described the same study, reporting on different aspects of it. A total of eleven reports were consequently coded as linked (secondary) reports (Ballanda et al. 2008, Barton et al. 2005, Carter 2010, Coufopoulous et al. 2010, Gregg and Ellahi 2007, Lawrence et al. 2007, Stead et al. 2004, Valentine 1999, Valentine et al. 2002, Wrieden et al. 2002, Wrieden and Simon 2003). This resulted in a total of 13 research studies that met our criteria for inclusion in the review. These studies were described in 24 papers.

Of the 13 studies, five had evaluated the outcomes of home cooking courses using a comparison group design. All five had also evaluated intervention processes. After quality appraisal, four of these five studies (Kennedy et al. 1998, Lawrence et al. 2006, McKellar et al. 2007, Wrieden et al. 2007) were judged to be unable to provide reliable findings about the effects of an intervention because of methodological limitations. At the end of this process, the review interpreted and reported the findings of one study only (Moynihan et al. 2006).

A further eight studies had evaluated processes, but had not used a comparison group. The findings for these eight were not extracted. The cooking courses in these and the other five studies were described, but not critically appraised. When processes had been evaluated, the methods for this were also described.

Figure 9.1 summarises the flow of studies through the review and provides a breakdown of reasons for exclusion.

Figure 9.1: The flow of studies through the review



10 Details of evaluations of course processes

This section describes the approaches used to evaluate processes in the 13 studies included in this systematic review. It covers, briefly, the kinds of people from whom process data was sought, and the types of processes that were explored (see Appendix 2 for a study by study description). Often, detail was found to be lacking in study reports. The findings of the process evaluation of the one study that met all three of this review's criteria for avoiding bias in evaluating outcomes can be found in Section 5.2.2.

Table 10.1 presents the number of studies that evaluated each of several different kinds of process. The samples for the process evaluations were a mix of course participants and tutors. Course participants were usually asked about the acceptability of the sessions. In seven studies (Bird 2010, Coffey et al. 2009, Conlon 2007, Gregg and Ellahi 2005, Moynihan et al. 2006, Scott et al. 2010, Timmins and Lambden 2004), course tutors were asked to comment on the courses, specifically about issues with implementation and delivery, and their experience of their own training.

Table 10.1: Processes evaluated in the cooking course evaluations

Process	**No. of studies evaluating this process***
Engagement /acceptability	11
Content	7
Implementation /delivery	6
Accessibility /programme reach	5
Skills /training of providers	5
Quality of programme materials	4

*Total does not add up to the total number of studies (n=13 because evaluations could study more than one kind of process.

Most commonly, participants and/or tutors were asked whether they enjoyed the course, or whether it was useful (engagement/acceptability). Just over half of the evaluations asked for views on the course content (Conlon 2007, Gregg and Ellahi 2005, Kennedy et al. 1998, Moynihan et al. 2006, Symon and Wrieden 2003, Timmins and Lambden 2004, Wrieden et al. 2007). For example, Conlon and colleagues asked course participants to rate their top five learning outcomes from the course; Gregg and colleagues asked participants to rate the usefulness of the course information; and Timmins and Lambden's study asked participants about the difficulty of cooking the recipes.

Six evaluations explored what happened during the running of the course (implementation/delivery) (Coffey et al. 2009, Conlon 2007, Moynihan et al 2006, Scott et al 2010, Snowdon 1999, Timmins and Lambden 2004). For example, Coffey and colleagues looked at the experiences of the food workers with inter-professional working; Snowdon and colleagues asked course participants about the suitability of the kitchens; and tutors commented to Scott and colleagues about practical difficulties such as crèches and kitchen facilities.

Five evaluations explored which kinds of participants took part (accessibility/programme reach) (Bird 2010, Conlon 2007, Gregg and Ellahi 2005, Symon and Wrieden 2003, Timmins and Lambden 2004). In some studies (e.g. Bird 2010, Conlon 2007, Timmins and Lambden 2004), the level of attendance of individuals, or the range of groups attending, was summarised. In others (e.g. Symon and Wrieden 2003) course participants were asked how easy it was to access the course venue.

Four evaluations examined views on the quality of programme materials (Conlon 2007, Moynihan et al. 2006, Scott et al. 2010, Timmins and Lambden 2004). Two asked for feedback from trainers (Conlon 2007, Scott et al. 2010). Two sought feedback from course participants (Moynihan et al. 2006, Timmins and Lambden 2004).

Five studies evaluated the skills or training of tutors (Coffey et al. 2009, Conlon 2007, Moynihan et al. 2006, Scott et al. 2010, Symon and Wrieden 2003). This consisted of feedback from the tutors on their own training, and/or feedback from participants about the skills of the tutors.

11 Detailed description of the outcome evaluations

This section complements section 5.2 in Part I of this report, in that it contains detail of the methods used in the five outcome evaluations that used a comparison group design, including the conditions compared in the studies, their allocation of study participants, the nature and timing of outcome measurement, the people sampled and the initial numbers and retention of participants. Table 11.1 presents a study by study description of key methodological features of the five studies.

Table 11.1: Overview of the five outcome evaluations

Study	Study design	Home cooking course	Comparison condition
Kennedy et al. (1998) [7]	Matched two-group design Matching individuals selected from a neighbouring site for post-test measurement only	Friends with food: ten 2-hour weekly sessions for women on low incomes with children Focused on practical skills, adapting recipes and eating healthily	Unclear: no details provided on the experience of the group of matched individuals
	Total N=40 (approx.) from 4+ community groups	N (baseline) unclear; N providing data at course end = 26	N (baseline) unclear; N providing comparison data = 13
Lawrence et al. (2006) [6]	Controlled trial with delayed treatment for comparison condition Study team allocated individuals from within community groups. No further details of allocation process	CookWell II: eight 2- to 3-hour weekly sessions for young women from populations at risk of low birthweight or from low income and ethnic minority groups Focused on practical skills, food hygiene and eating healthily	Access to the same cooking course delayed by 2 months
	Total N=40 (approx.) from 3 adult community groups (a fourth group involved young women aged <16 so is not considered here)	N (baseline) unclear N providing data at course end = 15	N (baseline) unclear N providing data at course end = 14

Study	Study design	Home cooking course	Comparison condition
McKellar et al. (2007) [12]	Controlled trial Study team allocated individuals attending hospital clinics, sometimes on the basis of ability to attend class locations on set session dates	Mediterranean diet: six 2-hour weekly sessions for women with rheumatoid arthritis Focused on practical skills and cooking for special dietary needs	Readily available written information on healthy eating only
	Total N=150 from 3 hospital clinics	N providing data at baseline = 75 N providing data at each of 3-month and 6-month follow-ups = 75	N providing data at baseline = 55 N providing data at each of 3-month and 6-month follow-ups = 55
Moynihan et al. (2006) [8]	Cluster randomised controlled trial Study statistician randomly allocated clusters (sheltered housing schemes). No further details given of allocation method	The Food Club: twenty 2-hour weekly peer-led sessions for older adults in sheltered housing schemes Focused on practical skills, food hygiene and eating healthily	Visits from trainee beauty therapists who provided complimentary manicures or hand massages
	Total N=304 in 32 clusters	N providing data at baseline = 16 clusters (mean cluster size 9.6), dietary data from 97 individuals N providing data at course end = 11 clusters, dietary data from 51 individuals N providing data at 12 months = 11 clusters, dietary data from 36 individuals	N providing data at baseline = 16 clusters (mean cluster size 9.4), dietary data from 104 individuals N providing data at course end = 12 clusters, dietary data from 45 individuals N providing data at 12 months = 12 clusters, dietary data from 40 individuals

Study	Study design	Home cooking course	Comparison condition
Wrieden et al. (2007) [5]	Controlled trial with delayed treatment for comparison condition Study team allocated individuals from within community groups, sometimes according to participants' preference	CookWell: eight 2-hour weekly sessions for the general population in areas of social deprivation Focused on practical skills, food hygiene and eating healthily	Access to cooking course delayed by 8 months, but in week following baseline, received one introductory educational session covering food hygiene, nutrition and food tasting (but no food skills work)
	Total N=113 from six community projects	N (baseline) is between 51 and 71 N providing data at course end (T2) unclear (29 provide dietary data at both baseline and T2) N providing data at 6 months follow-up (T3) unclear (24 provide dietary data at both baseline and T3)	N (baseline) is between 42 and 62 N providing data at course end (T2) unclear (21 provide dietary data at both baseline and T2) N providing data at 6 months follow-up (T3) unclear (17 provide dietary data at both baseline and T3)

11.1 The conditions compared

As well as evaluating different types of cooking course, each study provided a different experience for participants in its comparison arm. In the studies of CookWell (Wrieden et al. 2007) and CookWell II (Lawrence et al. 2006), where cooking course participants were provided with information and training in practical skills, food hygiene and eating healthily, a comparison group was created by delaying the start of the cooking course for half of the evaluation participants (for eight and two months respectively). In the study of CookWell only, all participants, regardless of their group, were also offered an initial educational session the week after they had provided baseline data. The authors describe this session as covering 'food hygiene, nutrition and food tasting but [no] skills work' (p205, Wrieden et al. 2007).

In the other three studies, cooking classes were not provided to all evaluation participants. In McKellar and colleagues' study of Mediterranean diet-style cooking classes for women with rheumatoid arthritis, participants in the comparison group were provided only with routine information about a healthy diet (McKellar et al. 2007). Moynihan and colleagues evaluated the provision of peer-led cooking classes for people aged 65+ (called a Food Club) within sheltered housing schemes. Residents of settings that were not allocated to have a Food Club were offered visits from trainee beauty therapists who provided hand massages or nail treatments (Moynihan et al. 2006). In Kennedy and colleagues' evaluation of the

Friends with Food course aimed at mothers with a low income, the comparison group's experience is not described (Kennedy et al. 1998).

11.2 Approach to allocating study participants

In only one of the five studies (of the peer-led Food Club) did the research team use a random process to determine whether people were to be allocated to a cooking class or not (Moynihan et al. 2006). In this study, sheltered housing schemes were allocated at random. This study was also the only one of the five comparison group evaluations to use the approach of allocating entire groups, or clusters, of people to either cooking classes or to a comparison group.

Three of the other four studies allocated individuals. In the Mediterranean diet cooking course evaluation, women had been recruited as individuals through three hospitals (McKellar et al. 2007). In the evaluations of CookWell and CookWell II, individuals were selected from those attending already existing community groups, and then allocated (Lawrence et al. 2006, Wrieden et al. 2007).

In the evaluation of Friends with Food (Kennedy et al. 1998), again, entire existing community groups (four) were allocated to receive the cooking course. In this case, however, the comparison group was made up of women from a neighbouring town with similar socio-demographic characteristics to the women receiving the cooking courses.

Reporting of how people were allocated to intervention and comparison groups tended to be fairly limited. No details are given for the method of randomisation used in the Food Club evaluation. In two studies, the authors report that participants' preferences influenced whether they were in the cooking course or comparison group arms of the study. In the first CookWell evaluation it is stated that it had been important to take into account participants' needs, 'e.g. to be supported by a friend, or their choice of timing' (p206, Wrieden et al. 2007). McKellar and colleagues describe how women were allocated to receive a Mediterranean style cooking course on the basis of their 'ability to attend intervention classes on given dates/venues' (p1240, McKellar et al. 2007). Methods for deciding allocation are not reported in Lawrence and colleagues' study (Lawrence et al. 2006), and no details are provided in Kennedy and colleagues' study of their processes for selecting matching participants for the comparison group.

11.3 Outcome measurement

The five studies varied in the outcomes that they measured and the length of follow-up. All five measured participants' dietary behaviour, and in all five cases, participants described their own diets, either during structured interviews (Kennedy et al. 1998, Lawrence et al. 2006), or using self-complete questionnaires (McKellar et al. 2007) or diaries (Moynihan et al. 2006, Wrieden et al. 2007). Moynihan and colleagues supplemented their self-complete diary with an interview to clarify and add detail, and took blood samples as an additional marker of intake of fruit and vegetables. One study also measured the frequency of certain food preparation and cooking methods, for example, cooking from basic ingredients and cooking convenience foods (Wrieden et al. 2007). Food shopping behaviour was also measured in this study but outcomes for this were not reported.

Attitudes to, or beliefs about, food or health were measured in all but one of the studies (McKellar et al. 2007); self-confidence about cooking was measured in two studies (Moynihan et al. 2006, Wrieden et al. 2007). Other studies measured one or more of the following: perceptions of behavioural control intentions, cognitive and affective attitudes, perceived need and benefits, attitudes to cooking and healthy eating, and perceptions of social norms and influences on foods eaten (Kennedy et al. 1998, Lawrence et al. 2006, Moynihan et al. 2006).

Participants' perceptions of their own cooking skills were measured in two studies (Lawrence et al. 2006, Wrieden et al. 2007). Knowledge about nutrition was measured in three studies (Kennedy et al. 1998, Lawrence et al. 2006, Moynihan et al. 2006) and knowledge about food safety in one (Moynihan et al. 2006).

Only two studies measured participants' health status (McKellar et al. 2007, Moynihan et al. 2006); both measured Body Mass Index (BMI). The first of these studies also measured participants' rheumatoid arthritis symptoms, blood pressure and cholesterol levels. The second also collected diary data about bowel movements, general health (as measured by the SF36 questionnaire) and health service and laxative use.

In terms of the timing of outcomes measurement, four out of the five evaluations collected data from study participants before the intervention commenced (baseline). Of these four, one also measured outcomes upon completion of the cooking course (Lawrence et al. 2006), and one at completion and after 12 months (Moynihan et al. 2006). Two studies measured outcomes at baseline and at six months (McKellar et al. 2007, Wrieden et al. 2007), with the first of these also collecting data at three months. In the fifth study, baseline data collection appears to have been limited to demographic information (Kennedy et al. 1998). Outcomes for cooking class participants were measured on completion of the course but the timing for participants in the comparison arm of the study is not described.

11.4 Evaluation participants

In all but one of the five cooking course evaluations (Lawrence et al. 2006) community groups and/or people were recruited from areas of high social deprivation. The process for recruiting participants in this one study is unclear from its report.

The community centres used for recruitment in two studies were 'in a particularly socially deprived urban neighbourhood in a Northern English Town' in one case (p90, Kennedy et al. 1998). In the other they were 'based [in six out of eight cases] in areas that are ranked in the most deprived 20% in Scotland … when scored by the Scottish Index of Multiple Deprivation' (p204, Wrieden et al. 2007). McKellar and colleagues' report describes how they aimed to access residents from areas of particular social deprivation in Glasgow, but does not describe how this was done (McKellar et al. 2007). The research team that evaluated the Food Club included in their sampling frame only those sheltered housing schemes that were based in an area identified as socially deprived by the Townsend Classification (in the upper quartile of this classification's scale).

Socio-economic details about the actual participants in the course evaluations were, however, not always reported. Wrieden and colleagues report on the income, education and employment status of all the participants they recruited, as well as the numbers receiving income support; however, they do not describe socio-economic details for the participants who provided data about outcomes later in their study (Wrieden et al. 2007). Kennedy and colleagues report on these and other socio-economic indicators, but it is unclear whether this is only for those in their study who provided outcomes data (Kennedy et al. 1998). Lawrence and colleagues aimed to collect data on income and education, but they were not able to collect the former from many of their participants (Lawrence et al. 2006). Their report indicates that the educational qualifications of their participants varied considerably, with a high proportion of women from the Zimbabwean course evaluation having university-level qualifications. Authors of the two remaining studies did not collect information about individual participants' incomes or educational levels (McKellar et al. 2007, Moynihan et al. 2006). Instead, they took participants' addresses and classified them under Carstairs (McKellar et al. 2007) and Townsend (Moynihan et al. 2006) categories for social deprivation. In McKellar and colleagues' study, approximately 50% of participants were classified as being in the most deprived social classes 6 and 7, and fewer than 20% were in classes 1 and 2 (p.1241). As described above, all participants in Moynihan and colleagues' study were defined as living in a deprived area by their sheltered housing accommodation. This study was the only one to examine whether the socio-demographic characteristics of people entered into the study differed from those remaining in the study at later time points. The evaluation's authors report that the participants remaining in the study were from less deprived areas when compared with those recruited, suggesting that participants were more likely to drop out of the study if they were from a more deprived area.

Three out of the five cooking courses were aimed at women and so were evaluated with women-only samples (Kennedy et al. 1998, Lawrence et al. 2006, McKellar et al. 2007). Two of these were aimed at young women of childbearing age (Lawrence et al. 2006), or mothers of young children (Kennedy et al. 1998) and the study participants were aged, on average, in their mid- or their late 20s (Kennedy et al. 1998 and Lawrence et al. 2006 respectively). The women in McKellar and colleagues' study varied more in age, from 30 to 70, and had had rheumatoid arthritis for over eight years (McKellar et al. 2007). The other two courses (Moynihan et al. 2006, Wrieden et al. 2007) were evaluated with both male and female participants, although males were a minority in both cases (at 15% and 12% respectively).

The ethnicity of participants was not described in three studies (Kennedy et al. 1998, McKellar et al. 2007, Wrieden et al. 2007). Lawrence and colleagues' study was of a cooking course developed with specific ethnic communities in mind, and participants were members of Bengali/Pakistani, Somali and Zimbabwean community groups (Lawrence et al. 2006). Moynihan and colleagues refer only in passing to 'non ethnic minority' participants (p15, Moynihan et al. 2006).

As Table 11.1 illustrates, the five evaluations ranged considerably in size. The two smallest studies (Kennedy et al. 1998, Lawrence et al. 2006) both included around 40 individuals, although both the numbers of people allocated and the numbers providing outcomes data at baseline were unclear. The first of these studies, CookWell II (Lawrence et al. 2006),

evaluated several versions of the CookWell cooking course, each of which had been adapted to a specific community. Community groups for Asian (Bengali and Pakistani), Somali and Zimbabwean women took part in the evaluations of courses for adults. The Friends with Food evaluation (Kennedy et al. 1998) involved participants from four community groups (two were from local authority family centres) and individuals from a neighbouring town.

The original CookWell study and the evaluation of the Mediterranean diet cooking classes (McKellar et al. 2007, Wrieden et al. 2007) were larger, allocating 130 and 113 participants respectively. The first of these studies recruited individual participants from three hospitals, the second from a total of six community projects. The evaluation of the Food Club, however, was by far the largest study. In this study, 32 sheltered housing schemes were recruited and allocated to cooking classes or to the comparison condition. Within each of these clusters, between eight and twelve study participants then consented to take part, making for a total of 304 individuals.

Three study teams reflected upon the success or otherwise of their recruitment process (McKellar et al. 2007, Moynihan et al. 2006, Wrieden et al. 2007). In the first study, authors described how their design was affected by participants being 'unavailable on dates of programmed courses' (p1240, McKellar et al. 2007). In the second study, it took far longer than anticipated to recruit participants. The authors reported a lack of manpower in the research team, but also reluctance among some to participate. This led to delays of up to five months between recruitment and baseline data collection for some of the sheltered housing schemes, and the loss of participants from the study. The authors of the third of these studies reported only that it was not possible to recruit the planned-for 20 people in each community group setting, but then stated that the smaller numbers achieved ('6 per cooking class') were more appropriate in any case for tutoring in the facilities available (p209).

Only two of the five studies (Moynihan et al. 2006, Wrieden et al. 2007) described how participants were then lost from the studies as they progressed (participant attrition) (see Table 6). Kennedy and colleagues did not describe the numbers of participants who formally entered their study or provided demographic data at the study start (Kennedy et al. 1998). Lawrence and colleagues' report did not distinguish between the number of individuals who were recruited or allocated, and the numbers providing data (Lawrence et al. 2006).

McKellar and colleagues reported that the numbers recruited to their study and the numbers providing data at both follow-up points were the same (McKellar et al. 2007).

Moynihan and colleagues report the numbers of sheltered housing schemes that withdrew from the sixteen schemes originally in both arms of the study (five and four from the cooking class and comparison arms respectively) (Moynihan et al. 2006). They also described, separately, and for both study arms, the total numbers of individual participants who remained in the study at 12-month follow-up, and the numbers providing data for all of the outcomes measured at this time.

The levels of attrition for the different arms of Wrieden and colleagues' study are unclear (Wrieden et al. 2007). These authors reported the numbers of participants that provided

outcomes data at more than one time point, but did not report the actual numbers of participants remaining in the study at each time. They described 20 participants as having withdrawn from the study in between allocation and baseline data collection, but did not state which of the two arms these individuals were from. A total of 63 participants remained in their study at 6 months follow-up, which equates to 44% of the 113 originally recruited.

The participants who remained in the study to provide outcomes data are described in one study only (Moynihan et al. 2006). Here, it is noted that people who completed the study were representative in terms of age of the original recruited sample, although those who withdrew after receiving cooking courses were likely to be from the study's more deprived areas.

Appendices

Appendix 1: Details of evaluated home cooking course methods and context

Name of course	Content	Number and length of sessions	Target group	Year course started	Venue	Trainers	Location
Asian Cookery Club (Snowden 1999)	Practical skills Adapting recipes Food hygiene Eating healthily	Three 2-hour sessions	South Asian women – clubs run in Urdu, Gujarati, Punjabi and Bengali	Not stated	Community venues	Volunteers active in the communities	Bedfordshire
Community Cooks Scheme, Knowsley (Gregg and Ellahi 2005)	Practical skills Eating healthily Budgeting skills	Mixture of taster sessions and longer courses	General population in a socially deprived area	2004	Community venues, such as family centres	Community food workers	Knowsley, Liverpool
Cook4Life Let's Get Cooking (Scott et al. 2010)	Practical skills Adapting recipes Food hygiene Eating healthily Shopping skills Other *	3 sessions, length not stated	Parents of children at Sure Start Centres	2009	Community venues and Sure Start Centres	Sure Start staff	Blackpool, Lancashire and Cumbria in the NW, and Bath and NE Somerset, Wiltshire and Torbay in the SW of England
Cook it! (Conlon 2007)	Practical skills Food hygiene Eating healthily Shopping skills	6 weekly sessions, length not stated	General population	2004	Community venues	Community workers and past participants	Northern Ireland

Name of course	Content	Number and length of sessions	Target group	Year course started	Venue	Trainers	Location
CookWell (Wrieden et al. 2007)	Practical skills Food hygiene Eating healthily	Eight 2-hour weekly sessions	General population in areas of social deprivation	2001	Community centres, including community café's and family centres	Local instructors and members of research team	Scotland
CookWell II (Lawrence et al. 2006)	Practical skills Food hygiene Eating healthily	Eight 2- to 3-hour weekly sessions	Girls and young women from populations at risk of low birthweight or from low income and ethnic minority groups	2004	Community venues	Worker from the ethnic community and researcher	Two groups in Dundee, Scotland and two in Luton, England
Friends with Food (Kennedy et al. 1998)	Practical skills Adapting recipes Eating healthily	Ten 2-hour weekly sessions	Low-income women with children	1991	Community venues	Clinical dietician, and community nutrition educator assistant	Deighton, Kirklees
Food Club (Moynihan et al. 2006)	Practical skills Food hygiene Eating healthily	Twenty 2-hour weekly sessions	Older adults (aged 65+) in sheltered housing schemes	2001	Sheltered housing schemes	Peer volunteers	North East England

Name of course	Content	Number and length of sessions	Target group	Year course started	Venue	Trainers	Location
Food for Life (Symon and Wrieden 2003)	Practical skills Food hygiene Eating healthily Budgeting skills Special dietary needs†	7 weekly afternoons	16-18 year old pregnant women	2001	Community centres	Midwives	Dundee and Perth
Get Cooking (Timmins and Lambden 2004)	Practical skills Food hygiene Eating healthily Shopping skills	6 weekly sessions, length not stated	Young mothers and young homeless	2003	Youth centre, homeless centre, drop-in centre for young people	Volunteers	Wales – Rhondda Cynon Taf
Huntly Community Kitchen (Bird 2010)	Practical skills Eating healthily	Variable depending of type of group	Low income 'vulnerable' groups	2009	Purpose-built community kitchen	Community development worker (catering advisor)	Huntly, Aberdeenshire
Mediterranean Diet (McKellar et al. 2007)	Practical skills Special dietary needs†	Six 2-hour weekly sessions	Women 30-70 years old with rheumatoid arthritis	Not stated	Community venues	Nutritionists and teaching staff from local colleges	Glasgow
Salford Community Food Workers (Coffey et al. 2009)	Practical skills Eating healthily Budgeting skills Other *	6 weekly sessions, length not stated	Families with young children	2004	Children's centres, nurseries and other community buildings	Community food workers	Salford, Greater Manchester

*- 'other' consists of topics on meal planning, knowledge of cooking equipment (Scott et al. 2010) understanding food labels, tips for getting children to eat healthier food (Coffey et al. 2009)

† – 'Special dietary needs' consists of nutrition in pregnancy (Symon and Wrieden, 2003), and a diet to alleviate symptoms of rheumatoid arthritis (McKellar et al. 2007)

Appendix 2: Study by study description of processes evaluations

Course/study	Details of evaluation participants (brackets indicate number of tutor respondents)	Which processes were evaluated?						
		Engagement/acceptability	Accessibility/programme reach	Content	Implementation/delivery	Costs	Quality of programme materials	Skills/training of providers
Asian Cookery Clubs **Snowdon (1999)**	Location: Bedfordshire, SE England Gender: women only Age: not stated Ethnicity: Asian SES: not stated Sample size: 10 post intervention, 8 at 12-18 month follow-up	√			√			
Community Cooks Scheme **Gregg and Ellahi (2005)**	Location: Knowsley, Liverpool, England Gender: not stated Age: not stated SES: not stated Sample size: 51 questionnaire 12 focus group, (unclear)	√	√	√				
Cook4Life **Scott et al. (2010)**	Location: NW and SW England Gender: not stated Age: not stated SES: not stated Other: Parents Sample size: 21 (42)	√			√	√	√	√

Course/study	Details of evaluation participants (brackets indicate number of tutor respondents)	Which processes were evaluated?						
		Engagement/acceptability	Accessibility/programme reach	Content	Implementation/delivery	Costs	Quality of programme materials	Skills/training of providers
Cook it! **Conlon 2007**	Location: Northern Ireland Gender: 88% female Age: not stated SES: 19% employed Other: 62% parents Sample size: 478 post intervention; 65 follow-up; 48 focus groups; (118 post training questionnaire, 66 follow-up questionnaire, 4 focus group)	√	√	√	√	√	√	√
CookWell **Wrieden et al. (2007)**	Location: Scotland Gender: mixed sex, majority female Age: mean 32.3 years SES: low income Sample size: unclear	√		√				
CookWell II **Lawrence et al. (2006)**	Location: Dundee, Scotland and Luton, SE England Gender: women only Age: 22-44 years Ethnicity: Somali, Pakistani, Bangladeshi, Zimbabwean SES: low status Sample size: 41	√				√		

Course/study	Details of evaluation participants (brackets indicate number of tutor respondents)	Which processes were evaluated?						
		Engagement/acceptability	Accessibility/programme reach	Content	Implementation/delivery	Costs	Quality of programme materials	Skills/training of providers
Friends with Food **Kennedy et al. (1998)**	Location: Deighton, town within Kirklees health district, North England Gender: Women only Age: mean 27.2 years SES: 'low income', most in groups V and VI Sample size: unclear			√				
Food Club **Moynihan et al. (2006)**	Location: North East England Gender: mixed, majority women Age: mean 76 years SES: living in socially deprived areas Sample size: unclear (20 leaders who completed programme)	√		√	√	√	√	√
Food for Life **Symon and Wrieden (2003)**	Location: Dundee and Perth, Scotland Gender: women only Age: 16-18 years SES: 6 achieved basic school qualifications Sample size: 10	√	√	√				√

Course/study	Details of evaluation participants (brackets indicate number of tutor respondents)	Which processes were evaluated?						
		Engagement/acceptability	Accessibility/programme reach	Content	Implementation/delivery	Costs	Quality of programme materials	Skills/training of providers
Get Cooking! **Timmins and Lambden (2004)**	Location: Wales Gender: mixed Age: 13-25+ years SES: not stated Sample size: 15 (unclear)	√	√	√	√		√	
Huntly Community Kitchen **Bird (2010)**	Location: Aberdeenshire, Scotland Gender: 91% female Age: mean 39 years SES: not stated Other: 72% parents Sample size: 11, (1)	√	√					
Mediterranean Diet McKellar et al. (2007)	Location: Glasgow, Scotland Gender: women only Age: 30-70 years SES: living in deprived areas Sample size: 130					√		

Course/study	Details of evaluation participants (brackets indicate number of tutor respondents)	Which processes were evaluated?						
		Engagement/acceptability	Accessibility/programme reach	Content	Implementation/delivery	Costs	Quality of programme materials	Skills/training of providers
Salford Community Food Workers **Coffey et al. (2009)**	Location: Salford, Greater Manchester, England Gender: not stated Age: not stated SES: not stated Other: 32% smokers Sample size: (unclear)	√			√			√

Appendix 3: Structured summaries of the five outcome evaluations with a comparison group design

Kennedy et al. 1998

A nutrition education programme (Friends with Food), evaluated using a matched two-group design, aimed to assist women from low-income families to acquire the knowledge, attitudes and skills needed to adopt healthier balanced diets. Participants were recruited from two local community groups and two local authority family centres, and were interviewed immediately after participating in the course and three months later. The cooking skills programme comprised of two-hour sessions over a 10-week period and was led by two project workers who had a background in food and nutrition. Session leaders spent time on teaching nutritional material and facilitated practical cooking activities. Participants experimented with familiar recipes which had been modified to reduce fat and increase their complex carbohydrate content. Visual aids were also used, such as a 'food wheel' showing the five different food groups, and simple models were used to explain more technical points, such as how fat makes its way into your arteries. The study's comparison arm consisted of women from a neighbouring town who matched those receiving the cooking course on specific socio-economic characteristics. The authors aimed to measure attitudes to healthy eating, food-related practices and whether participants had gained an awareness of current healthy eating messages and understood how these related to cooking practice. Reviewers determined the course effects to be unclear on all measures because of limitations in the study's methods. Specifically, the study did not use random allocation, or present baseline data for both arms of the study so as to ascertain if the study arms were balanced in terms of major prognostic factors. Also, the attrition rate from baseline to post-test was not reported and there is no information about study attrition. In addition, it is not clear if the authors reported on all of the outcomes they intended to measure as described in their methods.

Lawrence et al. 2006

The CookWell II programme was evaluated using a delayed treatment design and targeted women from low-income and ethnic minority backgrounds residing in Dundee (Pakistani and Bangladeshi women) and Luton (Somalian and Zimbabwean women). An additional cooking course in this programme, which was not examined in this review, was run for young people who were under 16 years old. Participants were recruited by the research team with the help of workers from local community projects. The aim was to follow the original CookWell programme, which had educational (hygiene and nutrition) and practical cooking skills components. The CookWell II programme was then adapted in response to focus groups and discussion with participants from various community projects, some of whom wanted to cook dishes from their own community. The weekly sessions each ran for two hours over an eight-week period. Participants in the study's comparison arm received the cooking course after a delay of two months. The authors aimed to measure participants' perceptions of their own cooking skills, their levels of fruit and vegetable consumption, their understanding of healthy eating and food preparation and their motivation to eat more healthily. Reviewers determined the course's effects to be unclear on all measures because of limitations in the study's methods. In particular, the study did not use random allocation or provide baseline

data for all groups so as to ascertain if the study arms were balanced in terms of major prognostic factors; it was not possible to identify the attrition rate because the number of participants who dropped out between baseline and post-test was not reported, and it was not clear if authors reported on all the outcomes they intended to measure as described in their methods.

McKellar et al. 2007

A cooking course aimed at promoting a Mediterranean-type diet in female patients with rheumatoid arthritis (RA), living in socially deprived areas of Glasgow, was evaluated using a controlled trial design. Female patients, aged 30-70 were recruited from three hospitals. Participants receiving the course attended weekly two-hour sessions for six weeks. The course was delivered in the local community and included both written materials and practical cooking skills. Patients in the control group only received widely available dietary information. Outcomes were collected at three time points (baseline, three months and six months). The authors measured patients' diets (using a food frequency questionnaire), RA symptoms and cardiovascular risk factors. Reviewers determined the course's effects to be unclear on all measures because of limitations in the study's methods. Specifically, the study did not use random allocation; baseline values of major prognostic factors were not balanced between groups in the trial and imbalances were not adjusted for in the analysis.

Moynihan et al. 2006

The peer-led Food Club, evaluated using a cluster randomised design, targeted adults, 65 years and older, living in sheltered accommodation with the aim of improving their dietary knowledge, attitudes and practices. Details of the study were made available in the sheltered housing schemes and recruitment meetings were set up whereby participants could volunteer and consent to take part on the basis that they might or might not receive the course. Local people aged 60+, without a professional background in health, were recruited to run the Food Clubs. They were trained for 13 weeks. Food Club sessions, which included training focused around practical skills, food hygiene and eating healthily, were run for 2 hours every week for 20 weeks. Participants in the study's comparison arm received hand massages and/or nail treatments from a visiting beauty therapist. The authors aimed to test the effect of the Food Club on dietary knowledge, attitude and practice. They measured participants' diets (using a self-complete questionnaire with follow-up interviews), indicators of physical and mental health (bowel movements, Body Mass Index, SF36 questionnaire), laxative and health service use, attitudes and beliefs about nutrition and health, and knowledge of nutrition and food safety. The reviewers judged that there was a low risk of selection, attrition and reporting bias, because of the use of random allocation, the relatively low loss of participating clusters and the minimal difference in loss between the study's two arms; also, the study presented data on all of the outcomes described in its aims. On the basis of the data reported by the authors, the reviewers judged that the study found that the Food Club could increase beneficially the percentage of energy obtained from carbohydrate in the diet (2.4% more than those not receiving the club), but might also, less beneficially, leave participants more likely to describe their diet as healthier than it actually was. The reviewers judged that there was no evidence for an effect of the Food Club on any

of the other outcomes measured in the study, but noted that the study might not have collected data from sufficient numbers of participants to be able to identify these impacts.

Wrieden et al. 2010

A standardised food skills course (CookWell I) delivered in areas of social deprivation, evaluated using a delayed treatment design, aimed to improve confidence in cooking and food preparation methods, and support people to make healthier diet choices. Participants were recruited from eight areas by a local community worker. Individuals from within existing communities were then allocated to the study's course or comparison arms. The programme included an introduction to food hygiene and nutrition before moving on to practical skills sessions. The weekly classes were two hours long and ran for eight weeks. Participants in the comparison arm of the study received the same cooking course but after a delay of eight weeks. Participants in both arms received an initial educational session, with no hands-on work. Outcomes were measured immediately after the course end, and at a six months follow-up. Measures included frequency and changes in consumption, preparation and cooking methods of healthy foods, along with participant's confidence in cooking and in following a recipe using basic ingredients. Reviewers determined the course's effects to be unclear on all measures because of limitations in the study's methods; specifically, the study failed to avoid attrition bias. The attrition rate was not reported separately according to allocation group. Over 40% of participants were lost from the study as a whole.

Appendix 4: Search strategies and sources

A highly sensitive search using both indexing and free-text terms was developed in Medline and in ASSIA. The search consisted of two searches, one which combined the concept of cooking with skills or interventions, and a second search that combined the concept of food or cooking with community initiatives. The searches were tailored to individual databases. In the larger health databases, Medline, EMBASE and PsycINFO a third concept was used to limit the search to studies of relevance to the UK. Searches were carried out during February and March 2011. Systematic searches were undertaken on the following 18 bibliographic databases and specialist registers from the fields of health, public health, education, social science, social care, and food and nutrition:

- ASSIA (Applied Social Sciences Index and Abstracts)
- BEI (British Education Index)
- CAB Abstracts
- Cochrane Library
- Database of Promoting Health Effectiveness Reviews (DoPHER)
- Econlit
- EMBASE (Excerpta Medica Database)
- ERIC (Education Resources Information Centre)
- Health Promis (Database of the Health Development Agency)
- IBSS (International Bibliography of the Social Sciences)
- IDEAS
- Proquest Dissertation Abstracts
- PsycINFO
- PubMed (Public Medical Literature Analysis and Retrieval System Online)
- Social Policy and Practice
- Social Services Abstracts
- Web of Science (Science Citation Index; Social Science Citation Index; Conference Proceedings Citation Indexes for Science and Social Science and Humanities)
- Trials Register of Promoting Health Interventions (TRoPHI)

The following 15 database sources were searched using keywords; the results were scanned at source and relevant items were formally screened against the eligibility criteria of the review:

- British Index to Thesis
- British Library Integrated Catalogue
- Campbell Library
- Community Wise
- ETHOS
- FADE library – North West Grey Literature Service
- Google
- Google Scholar
- King's Fund library

- NHS Evidence
- NHS Health Scotland library
- Northern Ireland social policy research base
- SIGLE (System for Information on Grey Literature in Europe)
- Social Policy Digest
- ZETOC (British Library Electronic Table of Contents)

A further 25 websites of relevant UK health and community organisations and research centres were searched:

- CHAMPS for health network – Cheshire and Merseyside partnership for health
- Child and Adolescent Health Research Unit
- Community Food and health (Scotland)
- ESRC today – funded research outputs and grants
- Faculty for Public Health
- Food and Health Alliance Scotland
- Food Standards Agency repository
- Food Vision
- Healthy Food for All
- IDEA – food and nutrition
- Institute of Public Health in Ireland
- Joseph Rowntree Foundation
- National Obesity Observatory for England
- NICE
- Nuffield Foundation
- People in Public Health database
- Physical and Nutrition Networks Wales
- Policy Hub
- Schools and Health Education Unit, 16+
- Scottish Government publications
- Social Care Institute for Excellence
- Social Issues Research Centre
- Social Science Research Network
- Sustain web
- Welsh government social research

The search strings used when searching ASSIA and Medline are provided below. Other searches are available from the first author on request.

ASSIA search strategy

ASSIA (CSA), Search A, 1 February 2011, and Search B, 15 February 2011. The results of the two searches were combined and de-duplicated using EPPI-Reviewer 4.

Search A: cooking AND skills, publication date limit 1995 onwards

(((DE="cooking") or(DE="food preparation") or(DE="home economics") or(DE=("eating behaviour" or "food habits"))) or(TI=(Culinary OR Chef OR chefs OR cheffing OR Cook OR cooks OR cooking OR cookery OR preparing within 5 food OR meal* within 5 preparing OR food within 5 preparation OR meal within 5 preparation OR "food skills" OR "food management skills" OR "Menu planning" OR "Meal planning" OR "planning meals") OR AB=(Culinary OR Chef OR chefs OR cheffing OR Cook OR cooks OR cooking OR cookery OR preparing within 5 food OR meal* within 5 preparing OR food within 5 preparation OR meal within 5 preparation OR "food skills" OR "food management skills" OR "Menu planning" OR "Meal planning" OR "planning meals"))) and(((DE=("life skills training" or "life skills" or "skills" or "technical skills")) or(DE="skills training") or(DE=("adult education" or "adult learning" or "assessment" or "civic education" or "cluster evaluation" or "community based" or "community education" or "courses" or "evaluation" or "facilitators" or "group evaluation" or "health education" or "pilot schemes" or "pilot studies" or "process evaluation" or "short courses"))) or(TI=(School OR schools OR schooling OR Course OR courses OR Class OR classes OR Lesson OR lessons OR Teaching OR taught OR Train OR training OR trained OR Skill OR skills OR skilled OR skilling OR re-skilling OR lifeskill OR lifeskills OR life-skill OR life-skills OR Practice OR practices OR Technique OR techniques OR Adult within 5 education OR adult within 5 educating OR "Adult learning" OR Community within 5 education OR community within 5 educating OR "Community learning" OR "Independent living" OR Demonstration OR demonstrations OR demonstrating OR Competency OR competencies OR competence OR Intervention OR interventions OR Campaign OR campaigns OR Program OR programs OR programme OR programmes OR Project OR projects OR Scheme OR schemes OR Initiative OR initiatives OR "food for life" OR "get cooking" OR "focus on food" OR "cooking buses" OR "let's cook" OR "Women's Institute" OR "ministry of food" OR "Alive 'n' Kicking" OR "Connect 3" OR "getting our active lifestyles started" OR "jump start" OR "on the go") OR AB=(School OR schools OR schooling OR Course OR courses OR Class OR classes OR Lesson OR lessons OR Teaching OR taught OR Train OR training OR trained OR Skill OR skills OR skilled OR skilling OR re-skilling OR lifeskill OR lifeskills OR life-skill OR life-skills OR Practice OR practices OR Technique OR techniques OR Adult within 5 education OR adult within 5 educating OR "Adult learning" OR Community within 5 education OR community within 5 educating OR "Community learning" OR "Independent living" OR Demonstration OR demonstrations OR demonstrating OR Competency OR competencies OR competence OR Intervention OR interventions OR Campaign OR campaigns OR Program OR programs OR programme OR programmes OR Project OR projects OR Scheme OR schemes OR Initiative OR initiatives OR "food for life" OR "get cooking" OR "focus on food" OR "cooking buses" OR "let's cook" OR "Women's Institute" OR "ministry of food" OR "Alive 'n' Kicking" OR "Connect 3" OR "getting our active lifestyles started" OR "jump start" OR "on the go")))

Search B: food or cooking AND community initiatives

(DE="nutrition" OR KW="food" or KW=cooking) AND ((DE=Community-based) OR TI=(lay WITHIN 5 worker*) or (community WITHIN 5 worker*) or (community nutrition*) OR (community WITHIN 5 helper*) OR (community WITHIN 5 group) OR (community WITHIN 5 groups) OR (peer educat*) OR (health worker*) OR (village worker) OR (lay WITHIN 5 advis*) OR (community WITHIN 5 volunteer*) OR (community WITHIN 5 project) OR (community

WITHIN 5 initiative*) OR (community WITHIN 5 scheme*) OR (community WITHIN 5 projects) OR (community WITHIN 5 program*) OR AB=(lay WITHIN 5 worker*) or (community WITHIN 5 worker*) or (community nutrition*) OR (community WITHIN 5 helper*) OR (community WITHIN 5 group) OR (community WITHIN 5 groups) OR (peer educat*) OR (health worker*) OR (village worker) OR (lay WITHIN 5 advis*) OR (community WITHIN 5 volunteer*) OR (community WITHIN 5 project) OR (community WITHIN 5 initiative*) OR (community WITHIN 5 scheme*) OR (community WITHIN 5 projects) OR (community WITHIN 5 program*))

Medline search strategy

PubMed (NLM)and Medline(EBSCO), (search A on 8 February 2011, search B on 22 February 2011)

For search A, PubMed was searched for items entered after 1 July 2010, to allow location of items that were not yet indexed on Medline, and Medline was searched in EBSCO host from 1995 to current as the search functionality enabled proximity searching, which is not available in PubMed. Search B was undertaken fully in PubMed. All search results were uploaded on to EndNote, de-duplicated and then uploaded into EPPI-Reviewer 4.

PubMed (NLM) strategy

Search A

#1 (Culinary[tiab] OR Chef[tiab] OR chefs[tiab] OR cheffing[tiab] OR Cook[tiab] OR cooks[tiab] OR cooking[tiab] OR cookery[tiab] OR (preparing[tiab] AND (food[tiab] OR meal*[tiab])) OR ((food[tiab] OR meal[tiab]) AND preparation[tiab]) OR "food skills"[tiab] OR "food management skills"[tiab] OR "Menu planning"[tiab] OR "Meal planning"[tiab] OR "planning meals"[tiab] OR Cooking[mh] OR Food Habits[mh] OR Food handling[mh] OR Food Preferences[mh] OR Menu planning[mh]) AND (School[tiab] OR schools[tiab] OR schooling[tiab] OR Course[tiab] OR courses[tiab] OR Class[tiab] OR classes[tiab] OR Lesson[tiab] OR lessons[tiab] OR Teaching[tiab] OR taught[tiab] OR Train[tiab] OR training[tiab] OR trained[tiab] OR Skill[tiab] OR skills[tiab] OR skilled[tiab] OR skilling[tiab] OR re-skilling[tiab] OR lifeskill[tiab] OR lifeskills[tiab] OR life-skill[tiab] OR life-skills[tiab] OR Practice[tiab] OR practices[tiab] OR Technique[tiab] OR techniques[tiab] OR (Adult[tiab] AND (education[tiab] OR educating[tiab])) OR "Adult learning"[tiab] OR (Community[tiab] AND (education[tiab] OR educating[tiab])) OR "Community learning"[tiab] OR "Independent living"[tiab] OR Demonstration[tiab] OR demonstrations[tiab] OR demonstrating[tiab] OR Competency[tiab] OR competencies[tiab] OR competence[tiab] OR Intervention[tiab] OR interventions[tiab] OR Campaign[tiab] OR campaigns[tiab] OR Program[tiab] OR programs[tiab] OR programme[tiab] OR programmes[tiab] OR Project[tiab] OR projects[tiab] OR Scheme[tiab] OR schemes[tiab] OR Initiative[tiab] OR initiatives[tiab] OR "food for life"[tiab] OR "get cooking"[tiab] OR "focus on food"[tiab] OR "cooking buses"[tiab] OR "let's cook"[tiab] OR "Women's Institute"[tiab] OR "ministry of food"[tiab] OR "Alive 'n' Kicking"[tiab] OR "Connect 3"[tiab] OR "getting our active lifestyles started"[tiab] OR "jump start"[tiab] OR "on the go"[tiab]) AND (("European"[Journal] OR "International"[Journal] OR European[tiab] OR "International"[tiab] OR "Northern Ireland"[PL] OR "United Kingdom"[PL] OR Britain[PL] OR Scotland[PL] OR Wales[PL] OR England[PL] OR "great britain"[MeSH Terms] OR europe[MeSH Terms:noexp] OR "Northern Ireland"[MeSH Terms] OR UK OR Scotland OR England OR Wales OR "Northern Ireland" OR Europe[tiab] OR British OR Scottish OR Welsh OR "U.K"[tiab] OR "United Kingdom" OR Britain OR "Channel Isles" OR "Channel Islands" OR English[tiab] OR Irish OR "EU Member"[tiab] OR "district council" OR "local council" OR "local authorities" OR "NHS Trust" OR "primary care trust" OR "borough council"

OR "county council" OR "local authority" OR "district councils" OR "local councils" OR "NHS Trusts" OR "primary care trusts" OR "borough councils" OR "county councils" OR "Social Care Trust" OR Aberdeen OR Aberdeenshire OR "Abertawe Bro Morgannwg" OR Albans OR Alderney[tiab] OR "Aneurin Bevan" OR Anglesey OR Angus OR Antrim OR Argyll OR Armagh OR Arran OR Ashfield OR Ayrshire OR Bangor OR Barking OR Bath[tiab] OR Bedfordshire OR Belfast OR "Betsi Cadwaladr" OR Bexley OR Birmingham OR Borders OR Bradford OR Brecknock OR Brent OR Bridgend OR Brighton OR Bristol OR Buckinghamshire OR Bute OR Caerphilly OR Cambridge OR Cambridgeshire OR Camden OR Cannock OR Canterbury OR Cardiff OR Carlisle OR Carmarthen OR Carmarthenshire OR Ceredigion OR Chelsea OR Cheshire OR Chester OR Chichester OR Clackmannanshire OR Clwyd OR Conwy OR Cornwall OR "County Down" OR Coventry OR Croydon OR Cumbria OR "Cwm Taf" OR Cynon OR Dagenham OR Dartford OR Davids OR Denbighshire OR Derby OR Derbyshire OR Devon OR Dorset OR Dudley OR Dumfries OR Dunbartonshire OR Dundee OR Durham OR Ealing OR Edinburgh OR Ely OR Enfield OR Essex OR Exeter OR Falkirk OR Fenland OR Fermanagh OR Fife OR Flintshire OR Forth OR Fulham OR Furness OR Galloway OR Gateshead OR Glamorgan OR Glasgow OR Gloucester OR Gloucestershire OR Grampian OR Gravesham OR Greenwich OR Guernsey OR Gwent OR Gwynedd OR Hackney OR Halton OR Hamlets OR Hammersmith OR Hampshire[tiab] OR Haringey OR Harlow OR Hartlepool OR Harwell OR Helens OR Hereford OR Hertfordshire OR Highland OR Hounslow OR Hull OR Humber OR Inverclyde OR Inverness OR "Isle of Man" OR Wight OR Islington OR Jersey[tiab] OR Kensington OR Kent OR Kinross OR Knowsley OR Lambeth OR Lanarkshire OR Lancashire OR Lancaster OR Leeds OR Leicester OR Leicestershire OR Lewisham OR Lichfield OR Lincoln OR Lincolnshire OR Lisburn OR Liverpool OR London OR Londonderry OR Lothian OR Loughborough OR Luton OR Lynn OR Manchester OR Meirionnydd OR Merseyside OR Merthyr OR Middlesbrough OR Midlands OR Midlothian OR Monmouth OR Monmouthshire OR Montgomery OR Moray OR Neath OR Newcastle OR Newham OR Newport[tiab] OR Norfolk OR Northamptonshire OR Northumberland OR Norwich OR Nottingham OR Nottinghamshire OR Orkney OR Oxford OR Oxfordshire OR Pembroke OR Pembrokeshire OR Perth OR Peterborough OR Plymouth OR Pontypridd OR Portsmouth OR Powys OR Preston OR Radnor OR Redbridge OR Renfrewshire OR Rhondda OR Ripon OR Rushmoor OR Salford OR Salisbury OR Sandwell OR Scarborough OR Scilly OR Sheffield OR Shetland OR Shropshire OR Somerset OR "South Holland" OR Southampton OR Southwark OR Staffordshire OR Stirling OR Stockton OR Stoke OR Suffolk OR Sunderland OR Surrey OR Sussex OR Swansea OR Talbot OR Tayside OR Thurrock OR Torfaen OR Truro OR Tyne OR Tyneside OR Tyrone OR Wakefield OR Walsall OR Waltham OR Warwickshire OR Wells OR "Western Isles" OR Westminster OR Wiltshire OR Winchester OR Wirral OR Wolverhampton OR Worcester OR Worcestershire OR Wrexham OR "Ynys Mon" OR York OR Yorkshire) NOT ("New Jersey" OR Alabama OR Ontario OR "New London" OR "New England" OR "New South Wales" OR "New York"))

#2 Search ("2010/07/01"[Entrez Date] : "3000"[Entrez Date])

#3 #1 AND #2

Search B

#1 Search Cooking[mh] OR Food Habits[mh] OR Food handling[mh] OR Food Preferences[mh] OR Menu planning[mh]

#2 food[tiab] OR cooking[tiab] Field: Title/Abstract

#3 #1 OR #2

#4 Search Community Networks[mh]

#5 Search (lay AND worker) OR (lay AND workers) OR (community AND worker) OR (community AND workers) OR ("community nutrition") OR ("community nutritionist") OR (community AND helper) OR (community AND helpers) OR (community AND group) OR (community AND groups) OR ("peer educator") OR ("peer educators") OR ("peer education") OR ("health worker") OR ("village worker") OR ("health workers") OR ("village workers") OR (lay AND advisers) OR (lay AND advisors) OR (lay AND advisor) OR (lay AND adviser) OR (community AND volunteer) OR (community AND volunteers) OR (community AND volunteering) OR (community AND project) OR (community AND initiative) OR (community AND initiatives) OR (community AND scheme) OR (community AND schemes) OR (community AND projects) OR (community AND program) OR (community AND programs) OR (community AND programme) OR (community AND programmes) Field: Title/Abstract 07:31:35 95447

#6 social support[mh] Field: Title/Abstract

#7 #4 OR #5 OR #6 Field: Title/Abstract

#8 #3 AND #7 Field: Title/Abstract

#9 (("European"[Journal] OR "International"[Journal] OR European[tiab] OR "International"[tiab] OR "Northern Ireland"[PL] OR "United Kingdom"[PL] OR Britain[PL] OR Scotland[PL] OR Wales[PL] OR England[PL] OR "great britain"[MeSH Terms] OR europe[MeSH Terms:noexp] OR "Northern Ireland"[MeSH Terms] OR UK OR Scotland OR England OR Wales OR "Northern Ireland" OR Europe[tiab] OR British OR Scottish OR Welsh OR "U.K"[tiab] OR "United Kingdom" OR Britain OR "Channel Isles" OR "Channel Islands" OR English[tiab] OR Irish OR "EU Member"[tiab] OR "district council" OR "local council" OR "local authorities" OR "NHS Trust" OR "primary care trust" OR "borough council" OR "county council" OR "local authority" OR "district councils" OR "local councils" OR "NHS Trusts" OR "primary care trusts" OR "borough councils" OR "county councils" OR "Social Care Trust" OR Aberdeen OR Aberdeenshire OR "Abertawe Bro Morgannwg" OR Albans OR Alderney[tiab] OR "Aneurin Bevan" OR Anglesey OR Angus OR Antrim OR Argyll OR Armagh OR Arran OR Ashfield OR Ayrshire OR Bangor OR Barking OR Bath[tiab] OR Bedfordshire OR Belfast OR "Betsi Cadwaladr" OR Bexley OR Birmingham OR Borders OR Bradford OR Brecknock OR Brent OR Bridgend OR Brighton OR Bristol OR Buckinghamshire OR Bute OR Caerphilly OR Cambridge OR Cambridgeshire OR Camden OR Cannock OR Canterbury OR Cardiff OR Carlisle OR Carmarthen OR Carmarthenshire OR Ceredigion OR Chelsea OR Cheshire OR Chester OR Chichester OR Clackmannanshire OR Clwyd OR Conwy OR Cornwall OR "County Down" OR Coventry OR Croydon OR Cumbria OR "Cwm Taf" OR Cynon OR Dagenham OR Dartford OR Davids OR Denbighshire OR Derby OR Derbyshire OR Devon OR Dorset OR Dudley OR Dumfries OR Dunbartonshire OR Dundee OR Durham OR Ealing OR Edinburgh OR Ely OR Enfield OR Essex OR Exeter OR Falkirk OR Fenland OR Fermanagh OR Fife OR Flintshire OR Forth OR Fulham OR Furness OR Galloway OR Gateshead OR Glamorgan OR Glasgow OR Gloucester OR Gloucestershire OR Grampian OR Gravesham OR Greenwich OR Guernsey OR Gwent OR Gwynedd OR Hackney OR Halton OR Hamlets OR Hammersmith OR Hampshire[tiab] OR Haringey OR Harlow OR Hartlepool OR Harwell OR Helens OR Hereford OR Hertfordshire OR Highland OR Hounslow OR Hull OR Humber OR Inverclyde OR Inverness OR "Isle of Man" OR Wight OR Islington OR Jersey[tiab] OR Kensington OR Kent OR Kinross OR Knowsley OR Lambeth OR Lanarkshire OR Lancashire OR Lancaster OR Leeds OR Leicester OR Leicestershire OR Lewisham OR Lichfield OR Lincoln OR Lincolnshire OR Lisburn OR Liverpool OR London OR Londonderry OR Lothian OR Loughborough OR Luton OR Lynn OR Manchester OR Meirionnydd OR Merseyside OR Merthyr OR Middlesbrough OR Midlands

OR Midlothian OR Monmouth OR Monmouthshire OR Montgomery OR Moray OR Neath OR Newcastle OR Newham OR Newport[tiab] OR Norfolk OR Northamptonshire OR Northumberland OR Norwich OR Nottingham OR Nottinghamshire OR Orkney OR Oxford OR Oxfordshire OR Pembroke OR Pembrokeshire OR Perth OR Peterborough OR Plymouth OR Pontypridd OR Portsmouth OR Powys OR Preston OR Radnor OR Redbridge OR Renfrewshire OR Rhondda OR Ripon OR Rushmoor OR Salford OR Salisbury OR Sandwell OR Scarborough OR Scilly OR Sheffield OR Shetland OR Shropshire OR Somerset OR "South Holland" OR Southampton OR Southwark OR Staffordshire OR Stirling OR Stockton OR Stoke OR Suffolk OR Sunderland OR Surrey OR Sussex OR Swansea OR Talbot OR Tayside OR Thurrock OR Torfaen OR Truro OR Tyne OR Tyneside OR Tyrone OR Wakefield OR Walsall OR Waltham OR Warwickshire OR Wells OR "Western Isles" OR Westminster OR Wiltshire OR Winchester OR Wirral OR Wolverhampton OR Worcester OR Worcestershire OR Wrexham OR "Ynys Mon" OR York OR Yorkshire) 07:38:38 4498266

#10 ("New Jersey" OR Alabama OR Ontario OR "New London" OR "New England" OR "New South Wales" OR "New York")

#11 #9 NOT #10

#12 #8 AND #11, Limits: Publication Date from 1995 to 2011

Medline (EBSCO host)
Search Mode – Boolean phrase, Limits: Publication Date from 1995 to 2011

S77 S73 and S76

S76 S48 or S49 or S50 or S55 or S58 or S59 or S60 or S71 or S72 or S75

S75 S61 NOT S74

S74 AB ("New Jersey" OR "New Hampshire")

S73 S46 and S47

S72 CY ("Northern Ireland" OR England OR Scotland OR Wales OR "Great Britain" OR UK OR "United Kingdom" OR "Channel Islands")

S71 S69 NOT S70

S70 TX ("New Jersey" OR Alabama OR Ontario OR "New London" OR "New England" OR "New South Wales" OR "New York" OR "New Halifax")

S69 S62 or S63 or S64 or S65 or S66 or S67 or S68

S68 TX (Swansea OR Talbot OR Tayside OR Thurrock OR Torfaen OR Truro OR Tyne OR Tyneside OR Tyrone OR Wakefield OR Walsall OR Waltham OR Warwickshire OR Wells OR "Western Isles" OR Westminster OR Wiltshire OR Winchester OR Wirral OR Wolverhampton OR Worcester OR Worcestershire OR Wrexham OR "Ynys Mon" OR York OR Yorkshire OR Rotherham OR Halifax OR Doncaster)

S67 TX (Pembrokeshire OR Perth OR Peterborough OR Plymouth OR Pontypridd OR Portsmouth OR Powys OR Preston OR Radnor OR Redbridge OR Renfrewshire OR Rhondda OR Ripon OR Rushmoor OR Salford OR Salisbury OR Sandwell OR Scarborough OR Scilly OR Sheffield OR Shetland OR Shropshire OR Somerset OR "South Holland" OR Southampton OR

Southwark OR Staffordshire OR Stirling OR Stockton OR Stoke OR Suffolk OR Sunderland OR Surrey OR Sussex)

S66 TX (Lincolnshire OR Lisburn OR Liverpool OR London OR Londonderry OR Lothian OR Loughborough OR Luton OR Lynn OR Manchester OR Meirionnydd OR Merseyside OR Merthyr OR Middlesbrough OR Midlands OR Midlothian OR Monmouth OR Monmouthshire OR Montgomery OR Moray OR Neath OR Newcastle OR Newham OR Norfolk OR Northamptonshire OR Northumberland OR Norwich OR Nottingham OR Nottinghamshire OR Orkney OR Oxford OR Oxfordshire OR Pembroke)

S65 TX (Gloucestershire OR Grampian OR Gravesham OR Greenwich OR Guernsey OR Gwent OR Gwynedd OR Hackney OR Halton OR Hamlets OR Hammersmith OR Haringey OR Harlow OR Hartlepool OR Harwell OR Helens OR Hereford OR Hertfordshire OR Highland OR Hounslow OR Hull OR Humber OR Inverclyde OR Inverness OR "Isle of Man" OR Wight OR Islington OR Kensington OR Kent OR Kinross OR Knowsley OR Lambeth OR Lanarkshire OR Lancashire OR Lancaster OR Leeds OR Leicester OR Leicestershire OR Lewisham OR Lichfield OR Lincoln)TX (Gloucestershire OR Grampian OR Gravesham OR Greenwich OR Guernsey OR Gwent OR Gwynedd OR Hackney OR Halton OR Hamlets OR Hammersmith OR Haringey OR Harlow OR Hartlepool OR Harwell OR Helens OR Hereford OR Hertfordshire OR Highland OR Hounslow OR Hull OR Humber OR Inverclyde OR Inverness OR "Isle of Man" OR Wight OR Islington OR Kensington OR Kent OR Kinross OR Knowsley OR Lambeth OR Lanarkshire OR Lancashire OR Lancaster OR Leeds OR Leicester OR Leicestershire OR Lewisham OR Lichfield OR Lincoln)

S64 TX (Carmarthenshire OR Ceredigion OR Chelsea OR Cheshire OR Chester OR Chichester OR Clackmannanshire OR Clwyd OR Conwy OR Cornwall OR "County Down" OR Coventry OR Croydon OR Cumbria OR "Cwm Taf" OR Cynon OR Dagenham OR Dartford OR Davids OR Denbighshire OR Derby OR Derbyshire OR Devon OR Dorset OR Dudley OR Dumfries OR Dunbartonshire OR Dundee OR Durham OR Ealing OR Edinburgh OR Ely OR Enfield OR Essex OR Exeter OR Falkirk OR Fenland OR Fermanagh OR Fife OR Flintshire OR Forth OR Fulham OR Furness OR Galloway OR Gateshead OR Glamorgan OR Glasgow OR Gloucester)TX (Carmarthenshire OR Ceredigion OR Chelsea OR Cheshire OR Chester OR Chichester OR Clackmannanshire OR Clwyd OR Conwy OR Cornwall OR "County Down" OR Coventry OR Croydon OR Cumbria OR "Cwm Taf" OR Cynon OR Dagenham OR Dartford OR Davids OR Denbighshire OR Derby OR Derbyshire OR Devon OR Dorset OR Dudley OR Dumfries OR Dunbartonshire OR Dundee OR Durham OR Ealing OR Edinburgh OR Ely OR Enfield OR Essex OR Exeter OR Falkirk OR Fenland OR Fermanagh OR Fife OR Flintshire OR Forth OR Fulham OR Furness OR Galloway OR Gateshead OR Glamorgan OR Glasgow OR Gloucester)

S63 TX (Aberdeen OR Aberdeenshire OR "Abertawe Bro Morgannwg" OR Albans OR "Aneurin Bevan" OR Anglesey OR Angus OR Antrim OR Argyll OR Armagh OR Arran OR Ashfield OR Ayrshire OR Bangor OR Barking OR Bedfordshire OR Belfast OR "Betsi Cadwaladr" OR Bexley OR Birmingham OR Borders OR Bradford OR Brecknock OR Brent OR Bridgend OR Brighton OR Bristol OR Buckinghamshire OR Bute OR Caerphilly OR Cambridge OR Cambridgeshire OR Camden OR Cannock OR Canterbury OR Cardiff OR Carlisle OR Carmarthen)

S62 TX (UK OR Scotland OR England OR Wales OR "Northern Ireland" OR British OR Scottish OR Welsh OR "United Kingdom" OR Britain OR "Channel Isles" OR "Channel Islands" OR Irish OR "district council" OR "local council" OR "local authorities" OR "NHS Trust" OR "primary care trust" OR "borough council" OR "county council" OR "local authority" OR "district councils" OR "local councils" OR "NHS Trusts" OR "primary care trusts" OR "borough councils" OR "county councils" OR "Social Care Trust")

S61 AB (European OR International OR Europe OR "U.K" OR "UK" OR English OR "EU Member" OR Alderney OR Bath OR Hampshire OR Jersey OR Newport)

S60 TI (European OR International OR Europe OR "U.K" OR "UK" OR English OR "EU Member" OR Alderney OR Bath OR Hampshire OR Jersey OR Newport)

S59 SO (European OR International)

S58 S57 NOT S56

S57 AF ("Northern Ireland" OR England OR Scotland OR Wales OR "Great Britain" OR UK OR "United Kingdom" OR "Channel Islands")

S56 Af ("New South Wales" OR "New England")

S55 S51 NOT S54

S54 S52 or S53

S53 SO ("New South Wales")

S52 SO ("New England")

S51 SO ("Northern Ireland" OR England OR Scotland OR Wales OR "Great Britain" OR UK OR "United Kingdom" OR "Channel Islands")

S50 (MH "Great Britain+")

S49 MH ("Europe")

S48 MH ("Northern Ireland" OR England OR Scotland OR Wales OR "Great Britain")

S47 LA (English)

S46 S1 and S45

S45 S41 or S44

S44 S42 and S43

S43 S6 or S7

S42 AB ((preparing N5 food) Or (preparing N5 meal) OR (preparing N5 meals) OR (food N5 preparation) OR (preparation N5 meal) OR (preparation N5 meals))

S41 S37 or S40

S40 S5 and S39

S39 S15 or S38

S38 AB ("adult learning" OR "community learning" OR "independent living")

S37 S16 or S17 or S18 or S19 or S20 or S21 or S22 or S23 or S24 or S25 or S26 or S27 or S28 or S29 or S30 or S31 or S32 or S33 or S34 or S35 or S36

S36 AB (initiative# N10 Culinary OR initiative# N10 Chef OR initiative# N10 chefs OR initiative# N10 cheffing OR initiative# N10 Cook OR initiative# N10 cooks OR initiative# N10

cooking OR initiative# N10 cookery OR initiative# N10 "food skills" OR initiative# N10 "food management skills" OR initiative# N10 "Menu planning" OR initiative# N10 "Meal planning")

S35 AB (scheme# N10 Culinary OR scheme# N10 Chef OR scheme# N10 chefs OR scheme# N10 cheffing OR scheme# N10 Cook OR scheme# N10 cooks OR scheme# N10 cooking OR scheme# N10 cookery OR scheme# N10 "food skills" OR scheme# N10 "food management skills" OR scheme# N10 "Menu planning" OR scheme# N10 "Meal planning")

S34 AB (project# N10 Culinary OR project# N10 Chef OR project# N10 chefs OR project# N10 cheffing OR project# N10 Cook OR project# N10 cooks OR project# N10 cooking OR project# N10 cookery OR project# N10 "food skills" OR project# N10 "food management skills" OR project# N10 "Menu planning" OR project# N10 "Meal planning")

S33 AB (program* N10 Culinary OR program* N10 Chef OR program* N10 chefs OR program* N10 cheffing OR program* N10 Cook OR program* N10 cooks OR program* N10 cooking OR program* N10 cookery OR program* N10 "food skills" OR program* N10 "food management skills" OR program* N10 "Menu planning" OR program* N10 "Meal planning")

S32 AB (campaign# N10 Culinary OR campaign# N10 Chef OR campaign# N10 chefs OR campaign# N10 cheffing OR campaign# N10 Cook OR campaign# N10 cooks OR campaign# N10 cooking OR campaign# N10 cookery OR campaign# N10 "food skills" OR campaign# N10 "food management skills" OR campaign# N10 "Menu planning" OR campaign# N10 "Meal planning")

S31 AB (intervention# N10 Culinary OR intervention# N10 Chef OR intervention# N10 chefs OR intervention# N10 cheffing OR intervention# N10 Cook OR intervention# N10 cooks OR intervention# N10 cooking OR intervention# N10 cookery OR intervention# N10 "food skills" OR intervention# N10 "food management skills" OR intervention# N10 "Menu planning" OR intervention# N10 "Meal planning")

S30 AB (competenc* N10 Culinary OR competenc* N10 Chef OR competenc* N10 chefs OR competenc* N10 cheffing OR competenc* N10 Cook OR competenc* N10 cooks OR competenc* N10 cooking OR competenc* N10 cookery OR competenc* N10 "food skills" OR competenc* N10 "food management skills" OR competenc* N10 "Menu planning" OR competenc* N10 "Meal planning")

S29 AB (demonstrati* N10 Culinary OR demonstrati* N10 Chef OR demonstrati* N10 chefs OR demonstrati* N10 cheffing OR demonstrati* N10 Cook OR demonstrati* N10 cooks OR demonstrati* N10 cooking OR demonstrati* N10 cookery OR demonstrati* N10 "food skills" OR demonstrati* N10 "food management skills" OR demonstrati* N10 "Menu planning" OR demonstrati* N10 "Meal planning")

S28 AB (technique# N10 Culinary OR technique# N10 Chef OR technique# N10 chefs OR technique# N10 cheffing OR technique# N10 Cook OR technique# N10 cooks OR technique# N10 cooking OR technique# N10 cookery OR technique# N10 "food skills" OR technique# N10 "food management skills" OR technique# N10 "Menu planning" OR technique# N10 "Meal planning")

S27 AB (practice# N10 Culinary OR practice# N10 Chef OR practice# N10 chefs OR practice# N10 cheffing OR practice# N10 Cook OR practice# N10 cooks OR practice# N10 cooking OR practice# N10 cookery OR practice# N10 "food skills" OR practice# N10 "food management skills" OR practice# N10 "Menu planning" OR practice# N10 "Meal planning")

S26 AB (skill* N10 Culinary OR skill* N10 Chef OR skill* N10 chefs OR skill* N10 cheffing OR skill* N10 Cook OR skill* N10 cooks OR skill* N10 cooking OR skill* N10 cookery OR "food skills" OR "food management skills" OR skill* N10 "Menu planning" OR skill* N10 "Meal planning")

S25 AB (train* N10 Culinary OR train* N10 Chef OR train* N10 chefs OR train* N10 cheffing OR train* N10 Cook OR train* N10 cooks OR train* N10 cooking OR train* N10 cookery OR train* N10 "food skills" OR train* N10 "food management skills" OR train* N10 "Menu planning" OR train* N10 "Meal planning")

S24 AB (taught N10 Culinary OR taught N10 Chef OR taught N10 chefs OR taught N10 cheffing OR taught N10 Cook OR taught N10 cooks OR taught N10 cooking OR taught N10 cookery OR taught N10 "food skills" OR taught N10 "food management skills" OR taught N10 "Menu planning" OR taught N10 "Meal planning")

S23 AB (teaching N10 Culinary OR teaching N10 Chef OR teaching N10 chefs OR teaching N10 cheffing OR teaching N10 Cook OR teaching N10 cooks OR teaching N10 cooking OR teaching N10 cookery OR teaching N10 "food skills" OR teaching N10 "food management skills" OR teaching N10 "Menu planning" OR teaching N10 "Meal planning")

S22 AB (lesson# N10 Culinary OR lesson# N10 Chef OR lesson# N10 chefs OR lesson# N10 cheffing OR lesson# 10 Cook OR lesson# N10 cooks OR lesson# N10 cooking OR lesson# N10 cookery OR lesson# N10 "food skills" OR lesson# N10 "food management skills" OR lesson# N10 "Menu planning" OR lesson# N10 "Meal planning")

S21 AB (course# N10 Culinary OR course# N10 Chef OR course# N10 chefs OR course# N10 cheffing OR course# N10 Cook OR course# N10 cooks OR course# N10 cooking OR course# N10 cookery OR course# N10 "food skills" OR course# N10 "food management skills" OR course# N10 "Menu planning" OR course# N10 "Meal planning")

S20 AB (classes N10 Culinary OR classes N10 Chef OR classes N10 chefs OR classes N10 cheffing OR classes N10 Cook OR classes N10 cooks OR classes N10 cooking OR classes N10 cookery OR classes N10 "food skills" OR classes N10 "food management skills" OR classes N10 "Menu planning" OR classes N10 "Meal planning")

S19 AB (class N10 Culinary OR class N10 Chef OR class N10 chefs OR class N10 cheffing OR class N10 Cook OR class N10 cooks OR class N10 cooking OR class N10 cookery OR class N10 "food skills" OR class N10 "food management skills" OR class N10 "Menu planning" OR class N10 "Meal planning")

S18 AB (Schooling N10 Culinary OR Schooling N10 Chef OR Schooling N10 chefs OR Schooling N10 cheffing OR Schooling N10 Cook OR Schooling N10 cooks OR Schooling N10 cooking OR Schooling N10 cookery OR Schooling N10 "food skills" OR Schooling N10 "food management skills" OR Schooling N10 "Menu planning" OR Schooling N10 "Meal planning")

S17 AB (School N10 Culinary OR School N10 Chef OR School N10 chefs OR School N10 cheffing OR School N10 Cook OR School N10 cooks OR School N10 cooking OR School N10 cookery OR School N10 "food skills" OR School N10 "food management skills" OR School N10 "Menu planning" OR School N10 "Meal planning")

S16 AB (Schools N10 culinary OR schools N10 Chef OR schools N10 chefs OR schools N10 cheffing OR schools N10 Cook OR schools N10 cooks OR schools N10 cooking OR schools N10 cookery OR schools N10 "food skills" OR Schools N10 "food management skills" OR Schools N10 "Menu planning" OR Schools N10 "Meal planning")

S15 S8 or S9 or S10 or S11 or S12 or S13 or S14

S14 AB ("food * life" OR "get cooking" OR "focus * food" OR "cooking buses" OR "Connect #" OR "getting our active lifestyles started" OR "jump start" OR "ministry * food" or "alive * kicking" or "women* institute)

S13 TI ("food * life" OR "get cooking" OR "focus * food" OR "cooking buses" OR "Connect #" OR "getting our active lifestyles started" OR "jump start" OR "ministry * food" or "alive * kicking" or "women* institute)

S12 MH (Education OR Training programs OR Program Evaluation OR Health Education OR Pilot projects)

S11 TI (School OR schools OR schooling OR Course OR courses OR Class OR classes OR Lesson OR lessons OR Teaching OR taught OR Train OR training OR trained OR Skill OR skills OR skilled OR skilling OR re-skilling OR lifeskill OR lifeskills OR life-skill OR life-skills OR Practice OR practices OR Technique OR techniques OR "Adult learning" OR "Community learning" OR "Independent living" OR Demonstration or demonstrations or demonstrating)

S10 TI (Competency or competencies or competence OR Intervention or interventions OR Campaign or campaigns OR Program or programs or programme or programmes OR Project or projects OR Scheme or schemes OR Initiative or initiatives)

S9 TI ((adult N10 education) OR (adults N10 education) OR (adult N10 educating) OR (adults N10 educating) OR (community N10 education) OR (community N10 educating))

S8 AB ((adult N10 education) OR (adults N10 education) OR (adult N10 educating) OR (adults N10 educating) OR (community N10 education) OR (community N10 educating))

S7 AB (Competency or competencies or competence OR Intervention or interventions OR Campaign or campaigns OR Program or programs or programme or programmes OR Project or projects OR Scheme or schemes OR Initiative or initiatives)

S6 AB (School OR schools OR schooling OR Course OR courses OR Class OR classes OR Lesson OR lessons OR Teaching OR taught OR Train OR training OR trained OR Skill OR skills OR skilled OR skilling OR re-skilling OR lifeskill OR lifeskills OR life-skill OR life-skills OR Practice OR practices OR Technique OR techniques OR "Adult learning" OR "Community learning" OR "Independent living" OR Demonstration or demonstrations or demonstrating)

S5 S2 or S3 or S4

S4 TI (Culinary OR Chef OR chefs OR cheffing OR Cook OR cooks OR cooking OR cookery OR (preparing N5 food) Or (preparing N5 meal) OR (preparing N5 meals) OR (food N5 preparation) OR (preparation N5 meal) OR (preparation N5 meals) OR "food skills" OR "food management skills" OR "Menu planning" OR "Meal planning")

S3 AB (Culinary OR Chef OR chefs OR cheffing OR Cook OR cooks OR cooking OR cookery OR (preparing N5 food) Or (preparing N5 meal) OR (preparing N5 meals) OR (food N5 preparation) OR (preparation N5 meal) OR (preparation N5 meals) OR "food skills" OR "food management skills" OR "Menu planning" OR "Meal planning")

S2 MH (Cooking OR Food Habits OR Food handling OR Food Preferences OR Menu planning

First produced in 2012 by:

Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre)
Social Science Research Unit
Institute of Education, University of London
18 Woburn Square
London WC1H 0NR

Tel: +44 (0)20 7612 6397

http://eppi.ioe.ac.uk/
http://www.ioe.ac.uk/ssru/

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The **Evidence for Policy and Practice Information and Co-ordinating Centre** (EPPI-Centre) is part of the Social Science Research Unit (SSRU), Institute of Education, University of London.

The EPPI-Centre was established in 1993 to address the need for a systematic approach to the organisation and review of evidence-based work on social interventions. The work and publications of the Centre engage health and education policy makers, practitioners and service users in discussions about how researchers can make their work more relevant and how to use research findings.

Founded in 1990, the Social Science Research Unit (SSRU) is based at the Institute of Education, University of London. Our mission is to engage in and otherwise promote rigorous, ethical and participative social research as well as to support evidence-informed public policy and practice across a range of domains including education, health and welfare, guided by a concern for human rights, social justice and the development of human potential.

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telephone: +44 (0)20 7947 9556 email: info@ioe.ac.uk