



Prevention of type 2 diabetes: Interventions to raise awareness in health professionals and assist identification of high risk groups.

Awareness-raising in health professionals and high risk group identification.

Commissioned by: NICE Centre for Public Health Excellence

Produced by: ScHARR Public Health Collaborating Centre

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About the SchARR Public Health Collaborating Centre

The School of Health and Related Research (SchARR), in the Faculty of Medicine, Dentistry and Health, University of Sheffield, is a multidisciplinary research-led academic department with established strengths in health technology assessment, health services research, public health, medical statistics, information science, health economics, operational research and mathematical modelling, and qualitative research methods. It has close links with the NHS locally and nationally and an extensive programme of undergraduate and postgraduate teaching, with Masters courses in public health, health services research, health economics and decision modelling.

SchARR is one of the two Public Health Collaborating Centres for the Centre for Public Health Excellence (CPHE) in the National Institute for Health and Clinical Excellence (NICE) established in May 2008. The Public Health Collaborating Centres work closely with colleagues in the Centre for Public Health Excellence to produce evidence reviews, economic appraisals, systematic reviews and other evidence based products to support the development of guidance by the public health advisory committees of NICE (the Public Health Interventions Advisory Committee (PHIAC) and Programme Development Groups).

Contribution of Authors

Maxine Johnson was the systematic review lead. Emma Everson-Hock, Roy Jones were reviewers on the project. Helen Buckley Woods and Suzy Paisley developed and undertook literature searches. Nick Payne and Jim Chilcott were the senior leads. Elizabeth Goyder was the topic expert.

Acknowledgements

This report was commissioned by the Centre for Public Health Excellence of behalf of the National Institute for Health and Clinical Excellence. The views expressed in the report are those of the authors and not necessarily those of the Centre for Public Health Excellence or the National Institute for Health and Clinical Excellence. The final report and any errors remain the responsibility of the University of Sheffield. Elizabeth Goyder and Jim Chilcott are guarantors.

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1. LIST OF ABBREVIATIONS

ARG	At Risk Groups
BME	Black and Minority Ethnic groups
BMI	Body Mass Index
CHD	Coronary Heart Disease
CHW	Community Health Worker
CI	Confidence Interval
DH	Department of Health
FACET	Five a Day Community Evaluation Tool
FHA	Food and Health Advisor
GP	General Practitioner
HLC	Healthy Living Centre
HP	Health Professional
Hr	Hour
IFG	Impaired Fasting Glucose
IGT	Impaired Glucose Tolerance
ITT	Intention to Treat
LFHW	Lay Food Health Worker
NHS	National Health Service
NICE	National Institute for Health and Clinical Excellence
NNT	Number Needed to Treat
OR	Odds Ratio
QUOROM	Quality Of Reporting Of Meta-analyses
RCT	Randomised Controlled Trial
RR	Relative Risk
SES	Socio-economic status
THSN	Targeting health and social need
WCM	Waist circumference measurement

2. EXECUTIVE SUMMARY

2.1 Background

Type 2 diabetes is associated with significant public health and social consequences. The National Institute for Health and Clinical Excellence has been asked by the Department of Health to develop public health guidance on the prevention of type 2 diabetes among high-risk groups. The referral is divided into 2 separate pieces of guidance. The first will address the prevention of pre-diabetes (raised and impaired glucose levels) in populations and communities of high risk adults aged 18-74 using determinants of health such as creating an environment supportive of behaviour change. The second piece of guidance will address how to prevent the progression of pre-diabetes to type 2 diabetes at the individual level.

It is recognised that the term 'pre-diabetes' is not ideal, as not everyone with raised or impaired blood glucose levels will go on to develop type 2 diabetes. However, the term 'pre-diabetes' has been chosen because of its widespread use and recognition by a broad range of stakeholder groups and because of the lack of consensus on a suitable alternative.

Within this first piece of guidance, three reviews will be carried out that each focus on a particular population within the UK. The first review focused on adults from lower socioeconomic groups, the second review focused on prevention of pre-diabetes in adults from black and minority ethnic (BME) groups. This, the third review will assess interventions which will raise awareness of pre-diabetes among health professionals and support them in identifying the groups most at risk.

2.2 Aims and Objectives

The aim of this, the third of three reviews, is to undertake an assessment of the effectiveness and, where available information allows, cost-effectiveness of UK-based interventions that aim to raise awareness of, and identify groups that are at high risk of developing pre-diabetes. The review focuses on training and other awareness raising initiatives as well as surveillance techniques for identifying high risk populations. In addition, an assessment of barriers and facilitators to the implementation of interventions will be made.

Review Questions:

How can health professionals better identify communities at high risk of developing pre-diabetes (incorporating surveillance and mapping methods, and awareness raising and education amongst health professionals)? What are the barriers and facilitators to implementation?

2.3 Methods

In addition to a mapping review which produced 3 of the included studies within the review, a systematic search for evidence for the effectiveness of interventions in this area was undertaken, with no literature being identified that met this aim. Similarly, no cost-effectiveness literature was identified and therefore could not be reviewed. The main focus of the review, therefore, is an examination and synthesis of studies that provide evidence of barriers and facilitators to the implementation of interventions. Grey literature was searched systematically to supplement the database searches.

2.4 Results

This report includes the findings of the third systematic review, which relates to interventions and barriers and facilitators to implementation of interventions targeted at health professionals and services. Eight qualitative and views studies reported in 9 papers of varying quality were included to address barriers and facilitators to identification of high risk groups and awareness raising in health professionals, and qualitative data were thematically synthesised.

There was generally a lack of available effectiveness evidence. This was substantiated by the literature that suggests a low rate of evaluation. There was evidence that health professionals working with the community might be well placed to identify groups at high risk of pre-diabetes. However, activity in this area is reported to be unsystematic and limited by lack of time. In addition, health professionals require an understanding of the cultural and religious issues of high risk groups in order to carry out effective health promotion and surveillance. There is evidence of competing discourses that on the one hand express empathy with disadvantaged communities, whilst on the other hand express an individualistic philosophy of choice and responsibility for health status.

The utilisation of lay workers (that is, without a formal health qualification) was studied in 4 included papers, with the suggestion that trained members of the community could identify and access at risk groups through their connections within the local community. It was suggested that lay members of target communities held specific knowledge of the locality and could pro-actively seek out those at risk. Communication was facilitated by use of shared language and knowledge of shared culture. Utilisation of catering staff with the incentive of awards were also studied in the context of reaching out to high risk groups, though with the acknowledgement that low-income groups are less likely to eat out. Training of workplace caterers was a suggestion for accessing some high risk groups.

2.5 Evidence statements

The following evidence statements result from a synthesis of available evidence and are presented by acceptability of intervention and barriers and facilitators relating to interventions for raising awareness and mapping methods for identifying at risk groups. The evidence statements will be repeated in section 6 alongside the relevant narrative synthesis of included studies.

Evidence statement 3.1: Extent of available evidence

Evidence from two survey studies (Lazenbatt *et al.*, 1999, 2000 +; Pope & Cooney 1995 -) (and lack of available evidence generally) suggests that UK interventions whose aims include raising awareness in health professionals and /or assisting health professionals in identifying and advising groups at high risk of pre-diabetes (such as low income and BME groups) are lacking rigorous evaluation and dissemination, making it difficult for practice to be evidence-based. Lazenbatt *et al.* (2000 +) in their overview of the contribution of nurses, midwives and health visitors working in the community highlight that it is not always feasible to use the RCT approach to measure the effectiveness of interventions in the community setting.

Evidence statement 3.2: Health professional activity and knowledge

Identification of high risk groups

There is evidence from one study (Graham *et al.* 2005 +) that did not focus on low income or BME groups to suggest that the process of identifying and referring high risk patients in primary care to an exercise scheme varies between general practices. GPs and practice nurse's methods of identifying and referring patients to an exercise scheme was ad hoc and based on patients asking about exercise themselves, chance discussion during consultations, requests for referral by another doctor, and asking patients to choose from a variety of behaviour change activities that might produce health benefits.

Evidence from one evaluation of Healthy Living Centres (Rankin *et al.*, 2009 +) acknowledges the challenges of identifying groups at risk. Hard to reach groups might be reached in small numbers at community events or eventually be motivated to engage with initiatives through word of mouth from relatives.

Evidence statement 3.3: Health professional activity and knowledge

Cultural sensitivity

Evidence from one survey study (Lazenbatt *et al.*, 1999, 2000 +) that evaluated the contribution of nurses to targeting health and social need suggests that in order to be able to empower high risk groups to make choices about adopting healthy lifestyles, health professionals require a deep understanding of the cultural and religious beliefs and economic influences within the communities with which they are working.

One evaluation (Rankin *et al.*, 2009 +) highlighted the need for practitioners to take into account the realities of the people they are aimed at. For example, making it clear that low-income groups do not require expensive clothing to engage in a community physical activity initiative, and avoiding an agenda that may be off-putting.

Evidence statement 3.4: Health professional activity and knowledge

Self-awareness and personal values

Evidence from one qualitative study (Chambers and Narayanasamy 2008 +) of nurses' attitudes identified two discourses in relation to health promotion with disadvantaged groups. One was associated with the philosophy of holism that nurses were exposed to during training. The other discourse reflects personal values. These were in tension; this tension may need addressing when practicing health promotion in a culturally sensitive way.

Evidence statement 3.5: Health professional activity and knowledge

Resources

Evidence from one survey study (Lazenbatt *et al.*, 1999, 2000 +) that did not specifically examine identification of high risk groups suggested that nurses engaged in community initiatives were working long hours and using their own finances to achieve their goals.

Evidence statement 3.6: Lay workers

Promotion of culturally sensitive messages

Evidence from two evaluations (Hampton *et al.*, 2000 +; Kennedy *et al.*, 2008 ++) suggests that the training of lay workers to identify and disseminate health promotion messages to members of their community is a way of reaching hard to reach and high risk groups.

One evaluation (Hampton *et al.* 2000 +) in which 11 women (7 of Pakistani, 2 of Indian and 2 of Chinese origin; of Muslim, Hindu and Christian religious background) undertook formal training to become 'Community Health Workers' (CHWs) provides evidence that lay workers trained by health professionals can identify target groups within the community and deliver health messages in a culturally sensitive way in an appropriate language. Knowledge of normal communication channels assisted in the success of the initiative, for example in this study, younger women were targeted for training as they are relied upon within the community for passing on information.

Evidence from a qualitative evaluation study (Kennedy *et al.*, 2008 ++) that explores the role of the lay food and health worker suggests a consensus of opinion that the primary role for lay workers is the encouragement of dietary change by making complex messages more credible and culturally appropriate. A pro-active strategy for lay workers to identify and contact at risk individuals is that of creating lists of contacts within the community and introducing themselves to those on the list.

One evaluation of Healthy Living Centres (Rankin *et al.*, 2009 +) highlighted a difference in focus between lay workers, who considered the larger social picture, and health professionals, whose focus was more on outcomes such as fruit and vegetable intake.

Evidence statement 3.7: Lay workers

Barriers and facilitators to implementation

One evaluation of peer education training (Farooqi and Bhaskar 2001 -) as part of a Community Health Promotion Programme (Project Dil), provides evidence for a high level of uptake and enthusiasm from those engaged in peer education. The project was designed to improve the effectiveness of primary and secondary prevention of heart disease (CHD) in volunteer Leicestershire general practices with a high percentage of S. Asian patients. Peer education was reported to facilitate health promotion within a range of organised community events.

Evidence from one evaluation (Hampton *et al.*, 2000 +) suggests that fostering a team spirit and sharing experiences was a key facilitator in training lay workers. However, there is evidence from the same study that scheduled activities prevented lay workers from having time to participate.

Evidence statement 3.8: Lay workers

Impact on high risk groups

One evaluation of lay worker training (Hampton *et al.* 2000 +) provides evidence that target groups within the community increased their knowledge as a result of lay worker activity, and found the cultural sensitivity of health promotion messages an important factor in helping to make changes in dietary practice.

2.5.2 Applicability

All the above studies were carried out within the UK, therefore applicability to the UK context is high. However, there are variations in training and practice of health promotion activity across the UK, so caution is required in making generalisations.

2.6 Discussion

A review of nine included papers (reporting 8 studies) of varying study type revealed a lack of evaluated activity in the field of health professional awareness raising and surveillance interventions. Included papers assessed views of some activity such as identification of high risk groups through general practice, catering establishments and targeting high risk communities. Health professionals working with high risk communities require adequate resources including time. They may also lack motivation to prioritise behaviour change that is not clearly linked to a particular condition. There was caution in advising patients to carry out physical activity in case this resulted in an adverse event. In addition, training was highlighted as a means of increasing cultural awareness.

Lay workers were perceived as having a closer relationship with target communities than health professionals and therefore well placed to identify and access groups at high risk of developing pre diabetes. They were described as pro-active in building up lists of contacts and introducing themselves to local communities. Activities were carried out within the community that allow health promotion messages to be delivered in a culturally and locally sensitive manner.

Lay workers were perceived as having time that was not readily available from health professionals. Peer education as part of a community health promotion initiative was received with enthusiasm. There were also reports of satisfaction with the advice received from lay workers.

3. INTRODUCTION

3.1 Aims and objectives

The National Institute for Health and Clinical Excellence has been asked by the Department of Health to develop public health guidance on the prevention of type 2 diabetes among high-risk groups as well as identification of high risk groups and awareness raising in health professionals. The referral is divided into 2 separate pieces of guidance. The first will address the prevention of pre-diabetes (raised and impaired glucose levels) in populations and communities of high risk adults aged 18-74 using determinants of health such as creating an environment supportive of behaviour change. The second piece of guidance will address how to prevent the progression of pre-diabetes to type 2 diabetes at the individual level.

Rationale for review focus

The focus of this review was to synthesise evidence for the effectiveness of interventions that aim to raise awareness of health professionals and allow identification of groups at high risk of pre-diabetes in order to improve diet and increase physical activity. There is a focus on low income (SES) and black and minority ethnic (BME) populations in the UK as these are at high risk groups for pre-diabetes. The rationale for this focus can be found in the NICE Public Health Guidance issued in 2007 on "*Behaviour change at population, community and individual level*" which emphasises the need to tailor interventions to individual and community characteristics rather than assuming that behaviour change interventions that have been effective in one population can be replicated in other populations without adaptation or consideration of local barriers to (or facilitators of) intervention implementation and effectiveness.

While the wider evidence-base in relation to behaviour change and obesity prevention, summarised within previous public health and clinical guidance from NICE, will also be directly relevant to diabetes prevention, this review addresses a specific area of uncertainty around the effectiveness, acceptability and feasibility of interventions among high risk groups in the UK and raising awareness of pre-diabetes prevention in high risk groups in health professionals. It also focuses on ways of identifying at risk groups within UK communities.

It is recognised that the term 'pre-diabetes' is not ideal, as not everyone with raised or impaired blood glucose levels will go on to develop type 2 diabetes. However, the term 'pre-diabetes' has been chosen because of its widespread use and recognition by a broad range of stakeholder groups, and because of the lack of consensus on a suitable alternative.

Within this first piece of guidance, three reviews have been carried out that each focus on a particular high risk population within the UK. The first review focused on adults from low socio-economic groups, the second review focused on prevention of pre-diabetes in adults from BME groups, including first-, second- and subsequent generations of people of South Asian (e.g. Indian, Pakistani, Bangladeshi), black African and African Caribbean origin. This, the third review, assessed interventions that raise health professionals' awareness of groups at high risk of developing pre-diabetes and support them in identifying those groups.

Research questions:

How can health professionals better identify communities at high risk of developing pre-diabetes (incorporating surveillance and mapping methods, and awareness raising and education amongst health professionals)? What are the barriers and facilitators to implementation?

The following will be identified according to available evidence:

Awareness-raising among health professionals of the increased risk of pre-diabetes faced by some groups. This may include education and training of health professionals and the use of a range of media.

Methods to identify populations, communities and individuals at high risk of developing pre-diabetes. These may include training for health professionals, community-mapping (for example, building relationships, knowledge and familiarity within the local area to identify who needs what, where and when), needs assessment and proactive efforts to find people at risk. It may also include opportunistic screening in primary care.

Interventions

The following section describes the types of intervention that were assessed within the review, and the context in which the interventions were considered. Specific

types of intervention were not pre-defined prior to searching or sifting; rather, interventions with aims that addressed the research question and met the inclusion criteria were considered. It should be noted that no research was identified that assessed the effectiveness of an intervention.

Raising awareness in health professionals of risk factors for developing pre-diabetes

Methods of increasing levels of knowledge of the risk of developing pre-diabetes and how to prevent this happening, e.g. education, training and the use of a range of media.

Interventions to identify high risk groups

How to identify adults from low SES and BME groups, e.g. community-mapping interventions.

Interventions are to be considered in the context of:

How the effectiveness and cost-effectiveness of interventions varies according to the following:

- a) Whether the intervention is based on an underlying theory or conceptual model.
- b) Diversity of the population (e.g. in terms of the user's age, gender, religion/ethnicity or socio-economic group) for whom the intervention is designed.
- c) Status of the person (or organisation) delivering the intervention and the way it is delivered.
- d) Frequency, length and duration, media format, where the intervention takes place, whether it is individual or group based and whether it is transferable to other settings.

Expected outcomes:

These may include:

Changes in health professionals' knowledge and awareness of the groups at high risk of developing pre-diabetes.

Changes in health professionals' knowledge of how to identify communities and individuals at high risk of developing pre-diabetes.

4. BACKGROUND

4.1 Description of the health problem

The NICE scope (NICE 2009a), which sets out what the guidance will and will not cover, highlights that every year, 100,000 people in the UK are diagnosed with type 2 diabetes and many more may have the condition (Diabetes UK 2006). It can lead to long-term complications including micro- and macrovascular diseases such as eye problems, kidney disease, foot ulcers and cardiovascular disease. This has implications for present and future NHS costs. Between 33% and 66% of people with pre-diabetes – raised or impaired blood glucose levels – will go on to develop type 2 diabetes over a period of 3–6 years (Diabetes Prevention Programme Research Group 2002; Lindstrom *et al.* 2003; Pan *et al.* 1997; Ramachandran *et al.* 2006). During that time they may also be at increased risk of coronary heart disease (Waugh 2007).

An individual's risk factors for pre-diabetes include: overweight or obese (a body mass index [BMI] of more than 25 kg/m²); a high waist circumference measurement (more than 80 cm in women and 94 cm in men); a sedentary lifestyle; a close family history of type 2 diabetes; a history of gestational diabetes in women; and being older than 40 (or older than 25 for some black and minority ethnic groups). In addition, certain groups of people are at greater overall risk of developing pre-diabetes, for example people of south Asian, African–Caribbean and black African descent. The prevalence of diagnosed diabetes (the majority of cases of which are accounted for by type 2 diabetes) is nearly four times greater in Bangladeshi men and almost three times greater in Pakistani and Indian men, more than five times greater in Pakistani women, three times greater in Bangladeshi and Black Caribbean women and two and a half times greater in Indian women, compared with the general population of England, adjusted for age (The Information Centre 2006). With rates of obesity on the increase and the population becoming more sedentary (The Health and Social Care Information Centre 2009) type 2 diabetes (and pre-diabetes) is becoming more prevalent.

For most people, both pre-diabetes and type 2 diabetes can be prevented by maintaining a healthy weight, improving dietary intake and being physically active. However, many people are unaware that they are at risk – and of the extent to which changes to their lifestyles can help prevent the onset of type 2 diabetes (Model Group 2007).

In addition to the personal cost to individuals, families and communities, diabetes is estimated to account for at least 5% of UK healthcare expenditure. Up to 10% of hospital budgets are used for the care of people with the condition – drug costs alone for people with type 2 diabetes have been estimated to account for about 7% of the total NHS drugs budget (Waugh *et al.* 2007). Preventing pre-diabetes among groups at high risk of developing type 2 diabetes could help save some of these NHS resources.

In 2007, 60% of primary care trusts (PCTs) had programmes in place to raise public awareness of the risk factors for diabetes and 37% were raising awareness of its signs and symptoms. Only 42% had assessed the needs of their population in relation to diabetes and less than 40% had developed a diabetes strategy (Innove 2008).

4.2 Health professionals

Health professionals (defined as a person trained to work in any field of physical or mental health) are well-placed to deliver preventative lifestyle interventions that might decrease an individual's risk of developing pre-diabetes and type 2 diabetes in the future (e.g. to increase physical activity, to eat more healthily), or to make referrals for lifestyle interventions (e.g. an exercise referral scheme). Such interventions can be effective; for example Roderick, Ruddock, Hunt and Miller (1997) found intensive dietary advice from nurses effective in making moderate dietary changes.

In addition, health professionals are also in a position where they can target lifestyle interventions at those recognised as being 'at risk' of developing type 2 diabetes and pre-diabetes. In order to do this, health professionals would need to be aware of those 'at risk' and be able to identify them in order to appropriately target interventions.

Groups of people more widely known to be at greater risk of developing pre-diabetes and type 2 diabetes include those in low SES groups and those in BME groups. For example, GP practices in deprived areas are significantly less likely to refer patients to exercise referral schemes (Sowden *et al.*, 2008). There is also a move towards better understanding the diversity of different ethnic groups in terms of health behaviours, beliefs and attitudes and applying this understanding to health care (Bhopal 2009). Existing NICE guidance on reducing the rate of premature deaths from cardiovascular disease and other smoking-related diseases recommends that

high-risk groups should be identified by health professionals at the commissioning and service provision level and also at the practice level (NICE 2008a).

Training interventions for health professionals may help them to be aware of and identify groups who may be most at risk, however little is known about such interventions. Therefore, it is necessary to review the evidence relating to interventions for health professionals focused on awareness-raising and identification of high-risk groups, and the barriers and facilitators to these interventions.

4.3 Remit of the assessment

A mapping review was carried out in order to assess the breadth of literature relevant to the overall research question. Searches showed that the quantity of literature from international studies was copious, therefore inclusion of such a large body of work would not be feasible within the resources available. In addition, much of the work carried out outside the UK is not transferable to UK at risk populations and service providers. Only UK based literature was therefore included in the searches.

For this, the third review, a total of 28 papers were identified from the mapping review at title/abstract level. On closer scrutiny of full texts, all but three of these were excluded due to a range of considerations (see exclusion table Appendix 2).

The next sections detail the inclusion and exclusion criteria as described within the scope document.

4.3.1 Groups that will be covered

Adults (aged 18–74) with one or more of the following individual risk factors:

- Family history of type 2 diabetes
- History of gestational diabetes
- BMI of 25 kg/m² or above
- High waist circumference above 80 cm (for women) or 94 cm (for men).

Groups of adults at greater risk of pre-diabetes including:

- People of south Asian, African–Caribbean or black African descent (to be assessed in this review)

- People from a lower socioeconomic group (assessed in a previous review).

4.3.2 Groups that will not be covered

- People who have already been diagnosed with IFG or IGT (the second piece of NICE guidance on preventing type 2 diabetes will consider this group)
- People with diabetes.
- Children and young people aged under 18.
- Adults older than 74.
- Pregnant women.
- Adults with other medical conditions who have been prescribed medication that may increase the risk of type 2 diabetes (e.g. steroids).

The guidance will apply to all high-risk groups within the general population.

4.3.3 Activities/interventions that will be covered

Ways of helping high-risk groups improve their diet, increase their physical activity levels and reach or maintain a healthy weight, to include:

a) Awareness-raising among health professionals of the increased risk of pre-diabetes faced by some groups. This may include education and training of health professionals and the use of a range of media.

b) Methods to identify populations, communities and individuals at high risk of developing pre-diabetes. These may include training for health professionals, community-mapping (for example, building relationships, knowledge and familiarity within the local area to identify who needs what, where and when), needs assessment and proactive efforts to find people at risk. It may also include opportunistic screening in primary care.

4.3.4 Activities/interventions that will not be covered

- Population-level screening to identify pre-diabetes.
- Diagnostic testing to identify pre-diabetes.

- BMI and waist circumference cut-off points used to assess risk in minority ethnic groups (this is covered in the NICE guideline on the prevention and management of obesity).
- Interventions to prevent the progression from diagnosed pre-diabetes to type 2 diabetes (this will be addressed by the second piece of guidance).
- Treatment and management of diagnosed type 1 and type 2 diabetes (this is the subject of previously published NICE guidance).

5. METHODS

5.1 Methods for identification of evidence

A systematic review of the effectiveness of interventions, and barriers/facilitators to implementation of interventions for awareness raising and identification of high risk groups by health professionals was undertaken according to the general principles recommended in the methods guide for development of NICE public health guidance (NICE 2009b). Methods followed the development of a review protocol and search protocol and are detailed below.

5.1.1 Search Strategy

The standard NICE Methods, as outlined in the Methods for the Development of NICE Public Health Guidance (NICE 2009b) were used to guide the development of the search methods. The aim of the search strategies was to retrieve a manageable number of relevant records to inform the review, views review, effectiveness and cost effectiveness reviews and the economic model.

An initial search strategy, limited to UK literature, was created to develop the mapping review and then the mapping review findings allowed further development of the search strategy for this review. It was clear from mapping review findings that effectiveness literature in this area was limited. The mapping review search was supplemented by additional searches for the views and effectiveness reviews as well as the economic model, in order to ensure that the review topic was fully explored as the reviews progressed. The search strategies were developed in conjunction with NICE Information Specialists.

A targeted approach to the identification of further UK-based evidence was taken. Instead of aiming to identify the relevant literature for a specific question using one search, we adopted an emergent approach which attempts to identify key literature. This literature was then explored in order to inform further retrieval by the identification of useful keywords/index terms.

The search strategy and key literature identified for the mapping review formed the basis of the search strategies for the review questions. An initial strategy was generated by identifying free text and MeSH terms from studies identified through the

mapping review as being relevant to the review questions. Iterations were then repeated as new concepts were identified, within the time frame of the study.

The questions to be addressed in the reviews have differing existing evidence bases. Therefore, decisions on the type of evidence (e.g. RCTs, observational) to be used in the reviews were made through an iterative searching process that allows decisions to be made based on the available evidence. No studies were excluded on the basis of study design. Details of search terms and types of evidence used were made available to members of the Programme Development Group for comment and to provide an opportunity to alert the assessment team to any additional key pieces or sources of evidence.

The searches were limited to English Language, 1990-current and human studies. A UK filter was applied to all the searches in order to limit the evidence to that which is directly applicable and therefore relevant; in particular to NHS services, the training and education of health professionals in respect to identifying and engaging with groups at high risk of developing pre-diabetes (i.e. those from low SES and BME groups). High risk groups resident in the UK differ in their cultural experiences from those in, for example, the US and Australia. As this guidance is concerned with accessing specific populations and the influences of their contextual backgrounds, UK based research was deemed more applicable.

A thorough audit trail of the search process was maintained; this includes all searches, number of results and number of relevant references identified. This process ensures that the search process is transparent, systematic and replicable.

In addition to the database searching, additional searches were undertaken in specialist websites and grey literature sources in order to identify evidence not indexed in the bibliographic databases. Key authors were also identified and searched for in Medline (via OVID SP), Cumulative index to nursing and allied health literature, (Cinahl, via EBSCO) and Scopus (via Elsevier), in order to interrogate medical, nursing and interdisciplinary data sources. The SchARR team also conducted reference and citation searching for those studies identified for inclusion in the reviews using Web of Science (via Thomson ISI), Scopus (via Elsevier) and Google Scholar.

The mapping review search strategy was used to search specific economic databases: NHS Economic Evaluation Database (via Wiley) and EconLit (via OVID

SP). The Public Health Interventions Cost Effectiveness Database (PHICED) which is part of the National Library for Public Health was also searched using the limits of public health area: obesity or physical activity.

An overview of evidence sources are below, with detailed information including location of websites and sample search strategies presented in Appendix 3.

List of Databases Searched for Review Three

Medline via OVID SP

Embase via OVID SP

CINAHL via EBSCO

The Cochrane Library via Wiley

Science Citation Index via Thomson ISI

Social Science Citation Index via Thomson ISI

PsycINFO via OVID SP

Selected EPPI Centre Databases

Additional Sources Searched for Review Three

Grey Literature: British Library Integrated Catalogue, Conference Papers Index, Medical Research Council and Economic and Social Research Council.

Websites: Association of Public Health Observatories, NHS Evidence: National Library for Public Health, Joseph Rowntree Foundation, Diabetes UK

Other sources: Scopus (via Elsevier), Web of Science (via Thomson ISI), NHS Economic Evaluation Database (NHS EED via Wiley), EconLit (via Ovid SP),

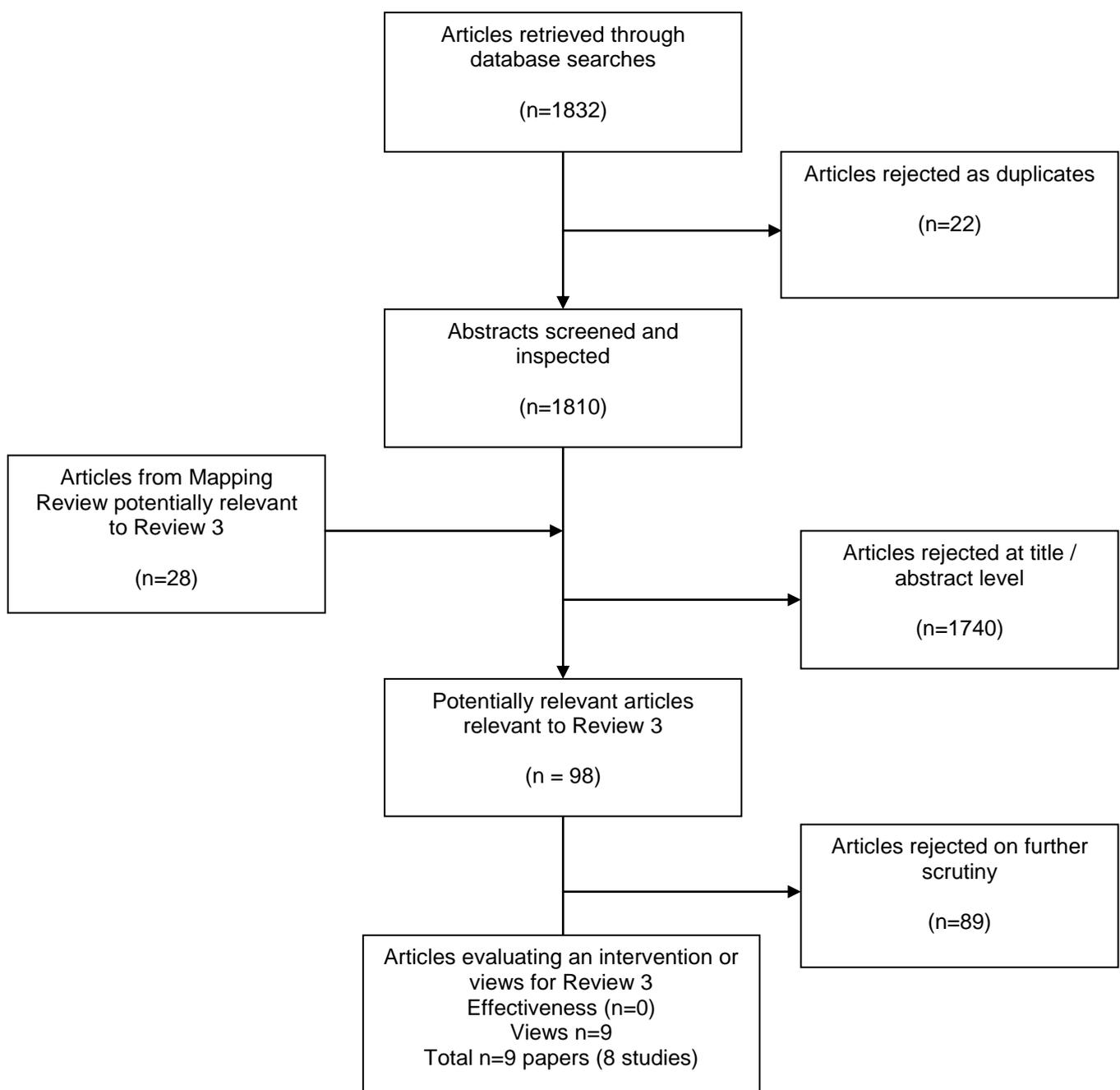
The Public Health Interventions Cost Effectiveness Database (PHICED), Google Scholar

5.2 Study selection

All of the retrieved UK based literature was screened by one of two reviewers (MJ, EEH) and double-checked by the other reviewer at title and abstract level for

relevance, and those relevant were taken through to full paper appraisal (see section 5.4 for full process details). A third reviewer was available in case of uncertainty in decision making. This was an emergent, iterative process, involving the information specialist, systematic reviewer, and topic specialist. Searching for evidence to inform both the qualitative and quantitative elements of the systematic review and the models was carried out concurrently. Figure 1 shows that from a large initial body of literature generated from the searches, a limited amount of UK papers fulfilled the inclusion criteria for review 3.

Figure 1: Flow chart of paper selection



5.3 Data Extraction

Data were extracted with no blinding to authors or journal. Data were extracted by one of two reviewers (MJ, EEH) using a standardised form. As highlighted in the Cochrane Collaboration guidelines for systematic reviews of health promotion and public health interventions, extraction forms should be developed for each review in order to make them relevant to the information that is required. The forms for extracting qualitative data were based on the example forms presented within the NICE public health guidance manual for the development of methods (NICE 2009b). The forms were piloted on two randomly selected views studies in order to confirm appropriateness for use. Information relating to the review question, study design, outcomes and conclusions were collated. There was no data extracted for effectiveness evidence. Data extracted for evidence of barriers and facilitators to effectiveness, or views of included activities included information relating to the activity under study, population, views on acceptability, accessibility, information given and retained, as well as any influences on these factors. Data extracted by each reviewer was checked by a second reviewer to ensure reliability. Any studies giving rise to uncertainty were reviewed independently by a third reviewer (in this case there were none), and discrepancies, for example where studies were not clearly reported, were resolved by discussion. Findings are presented in section 6, with related evidence tables in Appendix 6.

5.4 Quality assessment

The quality of all included studies was assessed by two reviewers (MJ, EEH) simultaneously and independently. Results of the two quality assessments were compared for each study to determine any indecision or conflict of view. Any disagreement around quality of studies was discussed until agreement was reached. Quality criteria were based on those developed for the methods guide for development of NICE public health guidance (NICE 2009b). The purpose of such quality assessment is to provide a narrative account of study quality for the reader, in order to inform judgements on the strength of the evidence presented. Within the methods guide (NICE 2009b), it is recommended that studies are categorised according to study type and methodological rigour and quality (categories ++, + or -) in order to provide a clear representation of type of evidence (See Table 1).

While it is noted that criteria may not be judged as having equal value in quality assessment, in the interests of consistency, a subjective cut-off score of 9 criteria fulfilled (out of a total of 14) has been applied for studies rated as ++.

Table 1: Study quality

Grade	Criteria
++	All or most of the criteria have been fulfilled. Where they have not been fulfilled the conclusions are thought very unlikely to alter.
+	Some of the criteria have been fulfilled. Those criteria that have not been fulfilled or adequately described are thought unlikely to alter the conclusions.
–	Few or no criteria have been fulfilled. The conclusions of the study are thought likely or very likely to alter.

The checklist for qualitative studies contained the following items:

1. Is a qualitative approach appropriate?
2. Is the study clear in what it seeks to do?
3. How defensible/rigorous is the research methodology?
4. How well was the data collection carried out?
5. Is the role of the researcher clearly described?
6. Is the context clearly described?
7. Were the methods reliable?
8. Is the data analysis sufficiently rigorous?
9. Is the data 'rich'?
10. Is the analysis reliable?
11. Are the findings convincing?
12. Are the findings relevant to the aims of the study?
13. Conclusions

Is there adequate discussion of any limitations encountered?

14. How clear and coherent is the reporting of ethics?

5.5 Data analysis and synthesis

A synthesis of available evidence is presented in Section 6. Data synthesis was informed by the methods advocated by NICE public health guidance (NICE 2009b).

Pre-specified outcomes of interest are tabulated in evidence tables and presented within a preliminary narrative synthesis. Due to a lack of identified studies examining the effectiveness of interventions to raise awareness in health professionals or to identify high risk groups, no synthesis either narrative or meta-analytical, was undertaken of the effectiveness literature. Views literature was synthesised in terms of key themes reported in the literature.

6. RESULTS

The following section presents findings from available evidence that addresses the questions:

How can health professionals better identify communities at high risk of developing pre-diabetes (incorporating surveillance and mapping methods, and awareness raising and education amongst health professionals)? What are the barriers and facilitators to implementation?

No UK based studies were found that examined the effectiveness of interventions to raise the awareness in health professionals of prevention of pre-diabetes in high risk groups or to assist health professionals in identifying high risk groups. Therefore, this review includes survey and qualitative assessment of the issues around surveillance of high risk groups and awareness raising in health professionals.

6.1 Views study characteristics

The characteristics of the nine included views papers (reporting on eight studies) are displayed in Table 1. Three of the studies (four papers) involved survey methods and four used interviews with one of these using a mix of both. The remaining study used a range of evaluative methods. Participants included GPs, nurses, health promotion personnel and lay workers. Settings varied between primary care and community settings, including catering outlets.

Table 2: Summary of included study characteristics

Study	Participants	Design	Aim of study	Our focus within the study	Recruiting/training of lay workers
Chambers & Narayanasamy (2008) +	12 female registered nurses, location not reported	Hierarchical focused interviews, analysed using discourse analysis	To investigate nurses' constructions of health in order to determine what influences these have on their health education practices and their implications for health education	SES and eating behaviour	Not applicable
Farooqi & Bhavsar (2001)-	23 general practice teams (62 GPs) with a high proportion of South Asian patients and 45 peer educators (community volunteers) in Leicestershire	Development and implementation of a CHD training & awareness programme for health professionals; general practice secondary prevention programme adoption; a public awareness campaign, including peer education. Interim evaluation using participation data, user satisfaction & organisational development of primary care.	To improve the effectiveness of primary and secondary prevention of CHD in volunteer general practices with a high percentage of South Asian patients; to increase awareness among the South Asian community of lifestyle risk factors with means of reducing CHD	Identification of high-risk groups (BME)	Community volunteers were invited from 23 voluntary organisations. They were required to be bilingual & have good communication skills. 50 were recruited and 45 completed the training programme for peer educators, developed & accredited by the Open College Network, consisting of 16 modules (including delivering messages on physical activity, diet, obesity and diabetes as well as dissemination messages and other topics such as smoking and alcohol) followed by a 'mop-up' day and ongoing training and support.
Graham <i>et al.</i> (2005) +	144 GPs	Postal survey and semi-structured interviews	To gain an understanding of the key factors that affected exercise referral scheme operation from the health professionals' perspective.	Identification of at-risk groups (i.e. lack of identification specifically reported)	Not applicable
Hampton (2000) +	11 female 'community	Semi-structured interviews, recordings	To discuss the underlying approaches taken in the culture-	Identification of high-risk groups	Young 'lay' Asian and Chinese women with good

Study	Participants	Design	Aim of study	Our focus within the study	Recruiting/training of lay workers
	health workers' (7 of Pakistani, 2 of Indian and 2 of Chinese origin) and over 2000 South Asian and Chinese women in Glasgow	from group discussions and 'networking sheets' (designed to assist community health workers in recording contacts and appointments, plan the time, topic, delivery methods and preparation time of sessions and self-evaluate)	sensitive project and its evaluation, highlighting key elements that contributed to its success.	(BME)	communication skills, were fluent in the relevant ethnic languages, had first-hand knowledge of the target community's social and cultural background and where possible had community work experience were recruited. Twenty two-hour training sessions were undertaken over 20 weeks, with additional refresher sessions. The core training programme covered relevant information about eating and non-insulin diabetes (and also relating to breast and cervical cancer). Community health workers were paid in this role by the Health Education Board for Scotland
Kennedy <i>et al.</i> (2008) ++	29 professionals (primarily community dietitians) and 53 lay people employed as 'lay food and health workers' throughout England	Interpretive qualitative enquiry through semi-structured group interviews	To explore the role of the lay food and health worker in terms of perceptions and definitions of the role, including perceived benefits and possible challenges associated with lay food and health worker initiatives and roles	Identification of high-risk groups (low SES & BME)	Recruitment and training not described in detail and may have varied across the 18 initiatives and projects reported on, but will have been indigenous (to the communities being served) lay people, trained but with no formal professional qualifications and carrying out functions related to community-based public health initiatives, with a focus on food and public health
Lazenbatt <i>et al.</i>	39% of nurses	Questionnaire and case	To assess the contribution that	Health promotion in	Not applicable

Study	Participants	Design	Aim of study	Our focus within the study	Recruiting/training of lay workers
(1999) + Lazenbatt <i>et al.</i> (2000) + (Papers report from same study)	working within the context of inequalities in health in Northern Ireland	studies of interventions for 'targeting health and social need'	nursing professionals are making to improve the health of deprived women, set within the context of 'targeting health and social need'	low SES areas	
Pope & Cooney (1995)-	380 Chief Environmental Officers, Health Promotion Officers and Dietitians in England	Questionnaire, with open and closed questions	To obtain information concerning the implementation of the Heartbeat Award for caterers (an award related to meeting certain criteria around offering healthy food choices, non-smoking areas and food hygiene-trained staff).	Identification of high-risk (low SES & BME) groups	Not applicable
Rankin <i>et al.</i> (2009) +	Practitioners from 6 Healthy Living Centre sites.	Range of qualitative methods including visits, interviews, discussion groups, documentary analysis, observation of activities.	Evaluation of the Healthy Living Centre (HLC) programme.	Identification of high-risk (low SES & BME) groups.	Not described.

6.2 Quality Assessment of studies

The studies included in this review consisted of three studies (four papers) that used survey methods and four that used interviews, with one of these seven using a mix of both. The remaining study used a range of evaluative methods including observation. Of the eight studies, one was rated as ++, five were rated as +, and two were rated as - for quality. One study that explored the role of lay health workers (Kennedy *et al.*, 2008) was rated ++ and another (Hampton *et al.*, 2009) was rated +. One study that examined nurses' beliefs in terms of health promotion (Chambers and Narayanasamy 2008), one study that examined the process of exercise referral (Graham 2007), and one study (reported in two papers) that examined the contribution of nurses in 'targeting health and social need' (Lazenbatt *et al.* 1999; 2000) were rated +. One evaluation of six Healthy Living Centres (Rankin *et al.*, 2009) was rated +, whilst one evaluation of a Community Health Promotion Programme (Farooqi and Bhavsar 2001) and an evaluation of an award scheme for caterers involving health professionals such as dietitians (Pope and Cooney 1995) were rated – on the basis of the NICE CHPE checklists (National Institute for Health and Clinical Excellence 2009b).

Study quality was assessed by both reviewers independently. There was no disagreement on the grading of studies. Study quality did not determine inclusion into or exclusion from the review, and was carried out with reference to the review questions; therefore the same paper may have received a different grading for this review than for other reviews.

See Appendix 4 for table of quality assessments.

6.2.1 Limitations to quality

There were three issues with quality assessment of the included studies. Firstly, studies included within this review often had only partial relevance to the research question; that is, the purpose of the study did not fully match the review question. In addition, the studies mainly used qualitative methods, but often with some quantitative element. This meant that the NICE CHPE qualitative checklist was adequate for the qualitative element. However additional surveys were typically carried out to obtain satisfaction ratings rather than using a validated tool and these are more difficult to assess. Lastly, methods were often not reported in detail sufficient to make judgement. These issues were reflected in the study grading which was based on relevance of findings and transparency of method reporting.

6.3 Synthesis of study findings

6.3.1 Extent of available evidence

There was generally a lack of published evaluations of interventions that aimed to identify groups at high risk of type 2 diabetes and / or raise awareness of the needs of those at high risk. This lack of evidence was substantiated in the small number of included studies. Lazenblatt *et al.* (2000) undertook a survey of 1000 health visitors, midwives and nurses involved in 22 interventions across Northern Ireland. The interventions were not confined to prevention of pre-diabetes but had a general aim of reducing health and social inequalities. A survey of 380 environmental officers, health promotion officers and dietitians was also carried out (Pope & Cooney 1995) in relation to CHD prevention awards. Whilst specific high risk groups were targeted, findings describe a lack of rigorous research design, small samples and limited description of intervention contents. Results are not always disseminated beyond the internal structure within which the interventions take place. It is also acknowledged that there are difficulties in carrying out RCTs within population-based interventions due to their complex nature.

Evidence statement 3.1: Extent of available evidence

Evidence from two survey studies (Lazenblatt *et al.*, 1999, 2000 +; Pope & Cooney 1995 -) (and lack of available evidence generally) suggests that UK interventions whose aims include raising awareness in health professionals and /or assisting health professionals in identifying and advising groups at high risk of pre-diabetes (such as low income and BME groups) are lacking rigorous evaluation and dissemination, making it difficult for practice to be evidence-based. Lazenblatt *et al.* (2000 +) in their overview of the contribution of nurses, midwives and health visitors working in the community highlight that it is not always feasible to use the RCT approach to measure the effectiveness of interventions in the community setting.

6.3.2 Health professional activity and knowledge

Health professionals working with communities may be well placed to identify and engage high risk groups in lifestyle change. For example, patients that attend GP practices may be targeted for diet / physical activity / weight management advice or

referral if the health professional identifies risk factors for type 2 diabetes. However, there are barriers and disadvantages to this approach.

Graham *et al.* (2005) surveyed 144 GPs to assess their role in, as well as barriers and facilitators to identifying and referring patients for an exercise intervention. Identification of high risk individuals was reported as being unsystematic. The authors state that there is a need to identify those that will benefit most in terms of potential for lowering risk.

For Rankin *et al.* (2009) accessing low SES groups and delivering services to the most disadvantaged groups was seen as a challenge:

“...the reality is, the most vulnerable are the least likely to attend the group but I don’t think we should... knock ourselves too much about that... because it’s only through word of mouth and chipping away at it that you’re going to eventually get the least able to attend maybe begin to participate.” (Partner, site 3)

The most successful groups were described as being “a bit of a mix” (Partner, site 1) of people from different socioeconomic backgrounds, and attracting a few of the more marginalised people under a ‘broad banner’ of services was perceived as important:

“So, under a broad banner where we go out in a health fair of seventy-one people, okay, you may only sign up or get three of the really marginalised ones that you meet there but you also might get a relative of somebody... So, under the wider, awareness raising stuff, what we’ve found is that you’re actually getting to the hard to reach groups.” (Manager, site 5)

It was suggested that future refinements focus on accessing specific disadvantaged groups:

“...like I’ve said, cooking classes, is it going to make a difference? So, we focus right down because the people who are being referred... what is coming, via the [primary care] health professionals... it’s the neediest people and that is what we need to try and get over to future funding.” (Manager, site 5)

Personal empowerment was also seen as important in reaching the target group and promoting services focused on lifestyle change:

“...every single one of our programmes, be it a walking group or a keep fit class or, or some kind of training, is a personal empowerment, right... [T]he challenge we have

when we speak to our Board [which included local people] is that they don't necessarily see themselves as excluded communities... they don't necessarily sort of say that... their lifestyles are necessarily, I think, negative.” (Manager, site 3)

The importance of relationship-building with client groups was also emphasised.

Evidence statement 3.2: Health professional activity and knowledge

Identification of high risk groups

There is evidence from one study (Graham *et al.* 2005 +) that did not focus on low income or BME groups to suggest that the process of identifying and referring high risk patients in primary care to an exercise scheme varies between general practices. GPs and practice nurse's methods of identifying and referring patients to an exercise scheme was ad hoc and based on patients asking about exercise themselves, chance discussion during consultations, requests for referral by another doctor, and asking patients to choose from a variety of behaviour change activities that might produce health benefits.

Evidence from one evaluation of Healthy Living Centres (Rankin *et al.*, 2009 +) acknowledges the challenges of identifying groups at risk. Hard to reach groups might be reached in small numbers at community events or eventually be motivated to engage with initiatives through word of mouth from relatives.

As well as having adequate resources and the motivation to engage with health promotion, there is also a requirement for health professionals working with high risk groups such as those with a low income and BME groups to be culturally aware. This means having knowledge of the impact of cultural, religious and economic influences on health related behaviour in order to empower those in disadvantaged circumstances.

Lazenbatt *et al.* (1999; 2000) evaluated the contribution of 392 nurses to targeting health and social need across 22 interventions. Nurses cited the use of a 'Community Action Model' which aims to mobilise disadvantaged communities through empowerment of high risk groups to make choices about adopting healthy lifestyles. In order to do this, the data suggests, "*a deep understanding and respect for cultural and religious beliefs is essential*" (Health Visitor).

A qualitative evaluation of six healthy living centres (HLCs) in Scotland by Rankin *et al.* (2009) explored their range of interests, health outcomes, target communities, organisational structures and geographical locations. The authors used a range of methods, approaching stakeholders, practitioners, project workers, community workers, project staff from local partner organisations and people with managerial roles as well as service users.

The paper focused on how practitioners made sense of and justified their approach to the task of addressing health inequalities, the challenges they perceived, changes in how inequalities were addressed over time and the resonance of accounts with recent studies on social class.

Poverty-related inequalities were felt to be linked to lifestyle priorities and accessibility and in addition class-related issues such as the avoidance of stigma were also considered important for ensuring uptake:

“It disnae [doesn’t] matter, you know, whether or no you’ve got a pair of training shoes, you know, it disnae matter tae [to] me whether you’ve got the gear. You come as you are. Everybody’s welcome.” (Project worker, site 3)

Similarly, marketing activities as ‘health-focused’ could be off-putting when attempting to reach low income groups:

“If... the [HLC] had been set up and started in a way that was so health focused... that there was just end of phase health we wouldn’t have got them through the door... or we might have got them through the door to begin with but it would have been short lived... it’s because it’s sort of taken as part of everything to do with your life that the word is out that it’s a good place to be.” (Chair, site 6)

Evidence statement 3.3: Health professional activity and knowledge

Cultural sensitivity

Evidence from one survey study (Lazenbatt *et al.*, 1999, 2000 +) that evaluated the contribution of nurses to targeting health and social need suggests that in order to be able to empower high risk groups to make choices about adopting healthy lifestyles, health professionals require a deep understanding of the cultural and religious beliefs and economic influences within the communities with which they are working.

One evaluation (Rankin *et al.*, 2009 +) highlighted the need for practitioners to take into account the realities of the people they are aimed at. For example, making it clear that low-income groups do not require expensive clothing to engage in a community physical activity initiative, and avoiding an agenda that may be off-putting.

Chambers and Narayanasamy. (2008) identified tensions between discourses of health promotion in a qualitative study of 12 female nurses. On one hand, the nurse role discourse expressed empathy towards the disadvantage that low income groups face in attempting to achieve a healthy lifestyle. For example, it was acknowledged that socio-economic circumstances can lead to eating unhealthy food as healthy food is more expensive:

“Lack of money means they don’t get the right foods. They’re probably eating junk food instead of some healthier foods... crisps, beef burgers and things like that, which I don’t feel are as healthy as meat and two veg.”

However, this contrasted with a more personal and individualistic discourse that was less sympathetic, placing the responsibility for wellbeing on the individual:

“Because people have to pay for something it doesn’t mean they can’t look after themselves. It’s because they don’t that they are admitted with problems they could have prevented but they probably just haven’t perhaps taken the trouble to care for themselves.”

Both discourses were present in each nurse interview, suggesting a tension between the philosophy of holism and that of personal choice. The latter was not situated in social structures but reflected an uncritical stance that assumes choice of good or bad health is available to all. The authors suggest that this tension can be addressed

in the practice of critical reflection during training, whereby the transition toward a nursing role is examined to prevent role incongruity. This would require self-awareness to identify the social structures that are instrumental in constructing personal health values as well as the tensions between these values and new, learned 'role' based values.

Evidence statement 3.4: Health professional activity and knowledge

Self-awareness and personal values

Evidence from one qualitative study (Chambers and Narayanasamy 2008 +) of nurses' attitudes identified two discourses in relation to health promotion with disadvantaged groups. One was associated with the philosophy of holism that nurses were exposed to during training. The other discourse reflects personal values. These were in tension; this tension may need addressing when practicing health promotion in a culturally sensitive way.

Lazenbatt *et al.*, (1999; 2000 +) found that nurses working in a range of community initiatives across Northern Ireland were not adequately funded, nor did they have sufficient ring-fenced time to carry out the work without using their own resources and time.

Evidence statement 3.5: Health professional activity and knowledge

Resources

Evidence from one survey study (Lazenbatt *et al.*, 1999, 2000 +) that did not specifically examine identification of high risk groups suggested that nurses engaged in community initiatives were working long hours and using their own finances to achieve their goals.

6.3.3 Bridging the Gap: Lay workers

Reaching out to high risk groups in terms of health promotion may involve the utilisation of community members. The rationale is that those who live within the community and are accessible to the community are well placed to identify those at

risk and deliver health promotion messages in a way that is understood. Pope and Cooney (1995) report on awards for caterers in relation to CHD prevention. The aim of the scheme was to involve caterers in good dietary practices which could be promoted to the public. Whilst low SES and BME groups were specifically targeted, it was acknowledged that low income groups rarely eat out. Nevertheless, though effectiveness data is not included, anecdotally it was suggested that the scheme was successful in promoting change. It was suggested that one way of reaching high risk groups was through good practice awards for workplace caterers.

The utilisation of lay health workers within the community has been described by Kennedy *et al.* (2008) and Hampton *et al.* (2000), peer educators by Farooqi and Bhavsar (2001) and lay workers by Rankin *et al.* (2009). According to Kennedy *et al.* (2008), the role of the lay health worker has been defined as:

“any lay health worker: indigenous to the communities being served, carrying out functions related to the community-based public health initiatives designed to prevent disease or promote health and well-being, with specific focus on food and public health; trained in some way in the context of the intervention; but having no formal professional or paraprofessional qualifications” (p.212).

The rationale for training lay members of the community to engage with health promotion is the accessibility of lay members in terms of shared environment, culture and knowledge of groups and their issues. Community members at high risk are more able to identify with lay workers, who are able to bridge the gap between health professionals and at risk populations in terms of communication and shared understandings.

In an evaluation by Hampton *et al.* (2000), more than 2000 women of South Asian and Chinese ethnicity were accessed during an 18 month period by 11 lay workers with similar backgrounds trained as Community Health Workers. Twenty training sessions lasting 2 hours each were delivered to the workers by health professionals. Information on healthy eating and type 2 diabetes was then delivered to target groups in the community using appropriate languages and with reference to cultural backgrounds. 19% of the women receiving information from lay workers stated in interviews that they believed that the sessions had ‘very much’ influenced their diet.

“...that [diet] was something I always wanted to change but was unsure how to do it without altering my whole diet... It helped me to change my eating habits” (South Asian respondent)

Respondents appeared to like the way in which traditional western health messages and healthy eating plans were adapted and delivered to suit their cultural backgrounds during the programme. One resource was especially popular – a bilingual Asian healthy eating recipe book designed by a group of CHWs (produced by the Health Education Board for Scotland), which allowed participants and CHWs to become part of the process and relate more closely to the messages being delivered. The encouragement of a team spirit and sharing of experiences was a key factor in the success of the initiative. Another key factor in this study was the acknowledgement that young members of the communities were normally relied upon to pass on information; this was utilised in the interventions by recruiting younger women for training.

The initiative allowed community members to be contacted through community centres, health information points, a Chinese health gala, diabetes road shows and GP practices.

Kennedy *et al.* (2008) also reported on lay food and health worker activity in 15 initiatives across England. The authors define the lay worker as being trained in relation to the intervention but having no formal professional or paraprofessional qualifications. A sample of 29 health professionals were surveyed, all of whom served low SES or BME communities. A key characteristic of the lay workers was that they were known to the community and therefore were well placed to identify those in need and communicate advice locally:

“...the project needed local people who knew the community and the community knew them...”

“To organise would be one of their biggest roles, making up lists of contacts they can use. Pro-actively contacting people, not waiting for contacts to be made but actually going out and introducing themselves.”

Completing the gap between public knowledge of healthy lifestyle behaviours and putting them into practice was the ultimate aim. Cook and Eat sessions were run to give practical advice rather than dietary advice alone. Indeed, providing people with the practical skills to be able to implement dietary advice and guidelines was regarded as a key role of the lay food and health worker by both dietitians and lay food and health workers. Issues such as cost would be taken into account so that activities were feasible. Unlike ‘busy’ professionals, LFHWs were perceived as being more likely and better able to provide practical and culturally relevant advice.

Outreach was perceived as an activity that could be performed well, mainly because of the lack of pressures compared to health professionals.

Farooqi and Bhaskar (2001) reported on a peer education programme for South Asian communities in Leicester. Messages about physical activity, diet, obesity, CHD and diabetes were disseminated through 9 dietary programmes and 5 physical activity programmes following training for health professionals across 20 general practices in these topics as well as cultural awareness. Forty-five lay community members were also trained in peer education that resulted in activities such as health fairs, health displays, presentations and physical activity sessions. The authors reported a high level of community enthusiasm and engagement in relation to the peer education programme.

An evaluation of Healthy Living Centres (Rankin *et al.*, 2009 ++) highlighted an underlying difference in focus between health professionals and lay workers. One project worker suggested that NHS health professionals often focused on quantitative outcomes at the expense of some of the holistic and social benefits of food provision, which were difficult to record:

“...I think it’s a multi-faceted thing in terms of health, that’s partly how I view it. It doesn’t always go down well with health professionals ‘cause... they tend to talk as if the food stuff was the important bit. Hellip; they’ll always say “No, no, I would never say you couldn’t eat chocolate and I would never underestimate the value of the social contact that goes along with it.” But, in fact, when you look at the initiatives, they tend to be going on about how many pieces of fruit you should eat and what kinds of fruit and vegetables you should eat... rather than about the bigger picture.”

(Project worker, site 2)

Evidence statement 3.6: Lay workers

Promotion of culturally sensitive messages

Evidence from two evaluations (Hampton *et al.*, 2000 +; Kennedy *et al.*, 2008 ++) suggests that the training of lay workers to identify and disseminate health promotion messages to members of their community is a way of reaching hard to reach and high risk groups.

One evaluation (Hampton *et al.* 2000 +) in which 11 women (7 of Pakistani, 2 of Indian and 2 of Chinese origin; of Muslim, Hindu and Christian religious background) undertook formal training to become 'Community Health Workers' (CHWs) provides evidence that lay workers trained by health professionals can identify target groups within the community and deliver health messages in a culturally sensitive way in an appropriate language. Knowledge of normal communication channels assisted in the success of the initiative, for example in this study, younger women were targeted for training as they are relied upon within the community for passing on information.

Evidence from a qualitative evaluation study (Kennedy *et al.*, 2008 ++) that explores the role of the lay food and health worker suggests a consensus of opinion that the primary role for lay workers is the encouragement of dietary change by making complex messages more credible and culturally appropriate. A pro-active strategy for lay workers to identify and contact at risk individuals is that of creating lists of contacts within the community and introducing themselves to those on the list.

One evaluation of Healthy Living Centres (Rankin *et al.*, 2009 +) highlighted a difference in focus between lay workers, who considered the larger social picture, and health professionals, whose focus was more on outcomes such as fruit and vegetable intake.

Evidence statement 3.7: Lay workers

Barriers and facilitators to implementation

One evaluation of peer education training (Farooqi and Bhaskar 2001 -) as part of a Community Health Promotion Programme (Project Dil), provides evidence for a high level of uptake and enthusiasm from those engaged in peer education. The project was designed to improve the effectiveness of primary and secondary prevention of heart disease (CHD) in volunteer Leicestershire general practices with a high percentage of S. Asian patients. Peer education was reported to facilitate health promotion within a range of organised community events.

Evidence from one evaluation (Hampton *et al.*, 2000 +) suggests that fostering a team spirit and sharing experiences was a key facilitator in training lay workers. However, there is evidence from the same study that scheduled activities prevented lay workers from having time to participate.

Evidence statement 3.8: Lay workers

Impact on high risk groups

One evaluation of lay worker training (Hampton *et al.* 2000 +) provides evidence that target groups within the community increased their knowledge as a result of lay worker activity, and found the cultural sensitivity of health promotion messages an important factor in helping to make changes in dietary practice.

7. DISCUSSION

This review focussed on the role that health professionals may take in identifying UK populations deemed at increased risk of developing pre-diabetes. There was also a focus on awareness raising interventions for health professionals, since this may have an impact on health promotion activity. There was no evidence of effectiveness or cost-effectiveness in regard to interventions targeted at health professionals, suggesting that activities carried out within the UK in order to raise awareness and identify high risk groups is fragmented and / or unreported.

UK based literature in this area was sparse and mixed in study type. Evidence from eight studies (reported in nine papers) of poor to very good quality revealed a lack of evaluated activity in the field of health professional awareness raising and surveillance interventions. Included evaluations were specific to the intervention being assessed and were mainly based on questionnaires and qualitative methods.

Evidence suggested that health professionals working with high risk communities lack adequate resources, including time to carry out optimal health promotion activities. In addition, training was highlighted as a means of increasing cultural awareness.

Lay workers were perceived as having a closer relationship with target communities than health professionals and therefore well placed to identify and access groups at high risk of developing pre diabetes. They were described as pro-active in building up lists of contacts and introducing themselves to local communities. Activities were carried out within the community that allow health promotion messages to be delivered in a culturally and locally sensitive manner. Lay workers were perceived as having time that was not readily available from health professionals. Peer education as part of a community health promotion initiative was received with enthusiasm. There were also reports of satisfaction with the advice received from lay workers.

A note of caution, however, should be applied to the interpretation of the findings of this review relating to lay workers. While raising awareness among health professionals of culturally sensitive issues among BME and low SES groups, lay workers may not be representative of the entire community of their origin and may be acting as gatekeepers of knowledge and normative discourses. For example, evidence informing recent NICE guidance on community engagement to improve health has suggested that the involvement of some community members in working

with professionals may lead to the exclusion of other community members and their views, increasing inequality and exclusion within communities (NICE 2008b).

Included studies assessed attitudes and health promotion activities of nurses, GPs, environmental officers, health promotion officers, dietitians and lay health workers. Initiatives took place in general practice, eating establishments as well as a range of community settings.

In terms of raising awareness in health professionals, three survey studies were not included in the review due to their lack of focus on high risk groups. However they highlight some general concerns in obesity management. Respondents from one survey (Brown *et al.* 2007) reported a lack of organisational support in terms of training in obesity management, despite the belief that health promotion activity was important. Practice nurses were carrying out more activity in this area than health visitors or district nurses. Knowledge of physical activity recommendations was low in a survey of general practitioners, practice nurses and health visitors (Douglas *et al.*, 2006). General practitioners and practice nurses gave more advice in this study than health visitors, and again, a lack of specific training for health professionals was reported. A survey of general practitioners, practice nurses and dietitians (Hankey *et al.* 2003) highlighted some inconsistencies in nutritional knowledge and understanding, particularly in the link between obesity and nutrition. One qualitative study found that some general practitioners in Scotland, particularly those in older age groups, were reluctant to engage with preventative activity as it was seen as outside their remit of treating illness and disease (Fuller *et al.*, 2003). Practitioners also report lack of time as a barrier to engagement in health promotion (Brown *et al.* 2007).

There was also some evidence that waist circumference is not being routinely measured to the same extent as BMI. In a typical week 13 professionals stated that they measured waist circumference compared to 137 reporting that they carried out BMI measurements (Brown *et al.* 2007). Dunkley *et al.* (2009) support this in their qualitative study of health professionals and patients, 50% of whom were from BME groups. Only one practice in this study carried out waist circumference measurements (WCMs), and only in patients who were obese and / or had a diagnosis of diabetes. There were reports of lack of knowledge in carrying out such measurements, as well as perceptions in some health professionals that WCM was an intimate procedure. Routine practice and experience of WCM appeared to increase confidence in carrying out the procedure.

No data for cost-effectiveness were found for the assessed interventions. Health economic issues will therefore be considered within the forthcoming Modelling Report. Further well-reported primary research is required that evaluates, with adequate follow-up, the outcomes of awareness raising and identification activities in health professionals.

There was evidence from limited available UK literature that acknowledgement of specific cultural and economic circumstances were an important factor in relation to health promotion, and that this could be addressed during training. Health professionals needed a shared understanding with client groups in order to assist in these changes. Cultural understanding was a facilitator in the previous reviews that assessed interventions aimed at low income and BME groups, with lay workers and religious leaders respectively having an important role in identifying and accessing at risk groups. From this review, there was evidence that health professionals were passing their knowledge to members of the community that were trusted within the community, in order to identify and communicate with groups in a way that the professionals might find difficult to accomplish due to workload, perceptions of their role and perhaps in some cases a lack of shared understanding with members of high risk groups.

Health professionals were reported to lack time and motivation to engage with certain health promotion activity. This compounds the lack of motivation in older members of BME groups to engage in physical activity that is not a part of everyday life, or lack of motivation in both BME and low SES groups to engage in certain physical activities due to fears of intimidation or conflicts with cultural and religious norms.

8. REFERENCES

Alberti, K.G., Zimmet, P. & Shaw, J. International Diabetes Federation: a consensus on Type 2 diabetes prevention. *Diabetic Medicine*, 24, 451-63, 2007.

Bhopal, R. Medicine and public health in a multiethnic world. *Journal of Public Health*, 31, 315-321, 2009.

Brown I., Stride C., Psarou A., Brewins L., Thompson J. Management of obesity in primary care: nurses' practices, beliefs and attitudes. *JAN* 59, 329-341, 2007.

Davey-Smith, G. Ethnicity, socio-economic position and health. *ESRC Health Variations Newsletter*, 6, 2000.

Department of Health *National service framework for diabetes: standards – supplementary information: Health inequalities in diabetes*. London: Department of Health 2002.

Douglas F., Torrance N., van Teijlingen E., Meloni S., Kerr A. Primary care staff's views and experiences related to routinely advising patients about physical activity. A questionnaire survey. *BMC Public Health* 6: 2006

Diabetes UK *Diabetes and the disadvantaged: reducing health inequalities in the UK. A report by the All Party Parliamentary Group for Diabetes and Diabetes UK* 2006.

[online]. Available from

www.diabetes.org.uk/Documents/Reports/Diabetes_disadvantaged_Nov2006.pdf

Dunkley AJ., Stone MA., Patel N., Davies MJ., Khunti K. Waist circumference measurement: knowledge, attitudes and barriers in patients and practitioners in a multi-ethnic population. *Family Practice* July 9, 2009.

Hankey CR., Eley S., Leslie WS., Hunter CM., Lean MEJ. Eating habits, beliefs, attitudes and knowledge among health professionals regarding the links between obesity, nutrition and health. *Public Health Nutrition* 7, 337-343, 2003.

Innovate *Delivering performance improvement. Findings from DiabetesE third national report* 2008. [online]. Available from [www.diabetes.nhs.uk/news-](http://www.diabetes.nhs.uk/news-folder/DiabetesE%20Third%20National%20Report%20Abridged%20Version%20FINAL%20(Feb%202008).pdf)

[folder/DiabetesE%20Third%20National%20Report%20Abridged%20Version%20FINAL%20\(Feb%202008\).pdf](http://www.diabetes.nhs.uk/news-folder/DiabetesE%20Third%20National%20Report%20Abridged%20Version%20FINAL%20(Feb%202008).pdf)

Li, G., Zhang, P., Wang, J., Gregg, E.W., Yang, W., Gong, Q., Li, H., Li, H., Jiang, Y., An, Y., Shuai, Y., Zhang, B., Zhang, J., Thompson, T.J., Gerzoff, R.B., Roglic, G., Hu, Y. & Bennett, P.H. The long-term effect of lifestyle interventions to prevent diabetes in the China Da Qing Diabetes Prevention Study: a 20-year follow-up study. *Lancet*, 371, 1783-9, (2008).

Lindstrom, J., Ilanne-Parikka, P., Peltonen, M., Aunola, S., Eriksson, J.G., Hemio, K., Hämäläinen, H., Härkönen, P., Keinänen-Kiukaanniemi, S., Laakso, M., Louheranta, A., Mannelin, M., Paturi, M., Sundvall, J., Valle, T.T., Uusitupa, M. & Tuomilehto, J. Sustained reduction in the incidence of type 2 diabetes by lifestyle intervention: follow-up of the Finnish Diabetes Prevention Study. *Lancet*, 368, 1673-9, 2006.

Lindstrom, J., Eriksson, J.G., Valle, T.T., Aunola, S., Cepaitis, Z., Hakumäki, M., Hämäläinen, H., Ilanne-Parikka, P., Keinänen-Kiukaanniemi, S., Laakso, M., Louheranta, A., Mannelin, M., Martikkala, V., Moltchanov, V., Rastas, M., Salminen, V., Sundvall, J., Uusitupa, M., Tuomilehto, J. Prevention of diabetes mellitus in subjects with impaired glucose tolerance in the Finnish Diabetes Prevention Study: results from a randomized clinical trial. *Journal of the American Society of Nephrology*, 14 (suppl 2), 108-13, 2003.

Mead, G.H. *Mind, Self and Society*. Chicago, US: University of Chicago Press, 1934.

Model Group *Diabetes: finding excellence? Facing the multi-faceted challenge of diabetes*, 2007. [online]. Available from www.diabetes.nhs.uk/downloads/diabetes_finding_excellence.pdf

National Institute for Health and Clinical Excellence *Reducing the rate of premature deaths from cardiovascular disease and other smoking-related diseases: finding and supporting those most at risk and improving access to services*. London: National Institute for Health and Clinical Excellence, 2008a.

National Institute for Health and Clinical Excellence. Community engagement to improve health. NICE public health guidance 9. London: National Institute for Health and Clinical Excellence, 2008b.

National Institute for Health and Clinical Excellence Developing NICE Guidance. 2009a. Available online from: <http://www.nice.org.uk/nicemedia/live/12067/45087/45087.pdf> (Accessed 13.05.10).

National Institute for Health and Clinical Excellence *Methods for development of NICE public health guidance* (2nd edition). London: National Institute for Health and Clinical Excellence, 2009b.

Pan, X.R., Li, G.W., Hu, Y.H. Wang, J.X., Yang, W.Y., An, Z.X., Hu, Z.X., Lin, J., Xiao, J.Z., Cao, H.B., Liu, P.A., Jiang, X.G., Jiang, Y.Y., Wang, J.P., Zheng, H., Zhang, H., Bennett, P.H. & Howard, B.V. Effects of diet and exercise in preventing NIDDM in people with impaired glucose tolerance. The Da Qing IGT and diabetes study. *Diabetes Care*, 20, 537-44, 1997.

Ramachandran, A., Snehalatha, C., Mary, S., Mukesh, B., Bhaskar, A.D. & Vijay, V. The Indian diabetes prevention programme shows that lifestyle modification and metformin prevent type 2 diabetes in Asian Indian subjects with impaired glucose tolerance. *Diabetologica*, 49, 289-97, 2006.

Roderick, P., Ruddock, V., Hunt, P. & Miller, G. A randomized trial to evaluate the effectiveness of dietary advice by practice nurses in lowering diet-related coronary heart disease risk. *British Journal of General Practice*, 47, 7-12, 1997.

Simmons, R.K., Harding, A.H., Jakes, R.W., Welch, A., Wareham, N.J. & Griffin, S.J. How much might achievement of diabetes prevention behaviour goals reduce the incidence of diabetes if implemented at the population level? *Diabetologia*, 49, 905-11, 2006.

Sowden, S.L., Breeze, E., Barber, J. & Raine, R. Do general practices provide equitable access to physical activity interventions? *British Journal of General Practice*, 58, 2008. DOI: 10.3399/bjgp08X342237.

Taylor, D., Bury, M., Campling, N., Carter, S., Garfied, S., Newbould, J. & Rennie, T. *The influence of social and cultural context on the effectiveness of health behaviour change interventions in relation to diet, exercise and smoking cessation*. NICE Centre for Public Health Excellence 2007. Available online from: <http://www.nice.org.uk/guidance/index.jsp?action=download&o=34605> Accessed 12/1/10.

The Health and Social Care Information Centre *Statistics on obesity, physical activity and diet: England February 2009*. London: The Information Centre.

The Information Centre. *Health Survey for England 2004: The health of minority ethnic groups*. Leeds: The Information Centre 2006.

Waugh, N., Scotland, G., McNamee, P., Gillett, M., Brennan, A., Goyder, E., Williams, R. & John, A. Screening for type 2 diabetes literature review and economic modelling. *Health Technology Assessment*, 11, 2007. [online]. Available from www.ncbi.nlm.nih.gov/pubmed/17462167.

Wang, S., Moss, J.R., Hiller, J.E. Applicability and transferability of interventions in evidence-based public health. *Health Promotion International*, 21, 76-83, 2006.

9. APPENDICES

Appendix 1: Included studies

Chambers, D. & Narayanasamy, A. A discourse and Foucauldian analysis of nurses' health beliefs: implications for nurse education. *Nurse Education Today*, 28, 155-162, 2008.

Farooqi, A. & Bhavsar, M. Project Dil: A co-ordinated primary care and Community Health Promotion Programme for reducing risk factors of coronary heart disease amongst the South Asian community of Leicester - experiences and evaluation of the project. *Ethnicity and Health*, 6, 265-270, 2001.

Graham, R.C., Dugdill, L. & Cable, N.T. Health professionals' perspectives in exercise referral: implications for the referral process. *Ergonomics*, 48, 1411-1422, 2005.

Hampton, K. Communicating health messages to marginalised communities – a culture sensitive approach. *International Journal of Health Promotion and Education*. 38, 40-46, 2000.

Kennedy, L.A., Milton, B. & Bundred, P. Lay food and health worker involvement in community nutrition and dietetics in England: roles, responsibilities and relationship with professionals. *Journal of Human Nutrition and Dietetics*, 21, 210-224, 2008.

Lazenbatt, A., Orr, J., Bradley, M. & McWhirter, L. The role of nursing partnership interventions in improving the health of disadvantaged women. *Journal of Advanced Nursing*, 30, 1280-1288, 1999. (Same study as Lazenbatt 2000)

Lazenbatt, A., Orr, J., Bradley, M. & McWhirter, L. Community nursing achievements in tackling inequalities in health in Northern Ireland. *Nursing Times Research*, 5, 178-192, 2000. (Same study as Lazenbatt 1999).

Pope, R. & Cooney, M. The Heartbeat Award for caterers: experiences of health professionals involved. *Health Education Journal*, 54, 322-330, 1995.

Rankin D., Backett-Milburn K., Platt S. Practitioner perspectives on tackling health inequalities: Findings from an evaluation of healthy living centres in Scotland. *Social Science & Medicine* 68, 925-932, 2009.

Appendix 2: Excluded studies

Studies excluded after review of full paper

Author	Ref ID	Reason for exclusion
Anderson 2000		Not at risk groups
Berlanga <i>et al.</i> 2000	5818	Population with diabetes
Blenkinsopp <i>et al.</i> 2002	5780	Not awareness raising or ARG identification
Brown <i>et al.</i> 2007	5185	Not specific to high risk groups
Buckler 1999	5830	Not awareness raising or ARG identification
Buetow & Docherty 2005	5684	Not awareness raising or ARG identification
Buffart <i>et al.</i> 2008a	6730	Non-UK
Buffart <i>et al.</i> 2008b	5565	Non-UK
Byrne <i>et al.</i> 2006	5648	Non-UK Review
Cadman & Wiles 1996	6699	Not awareness raising or ARG identification
Counterweight Project Team 2008	5116	General practice; individual level
Douglas <i>et al.</i> 2006	5212	General practice; individual level
Dunkley <i>et al.</i> 2009	6733	Not awareness raising or ARG identification
Eley Morris <i>et al.</i> 1999	5835	Not awareness raising or ARG identification
Greenwood <i>et al.</i> 2000	5379	Background information
Hankey <i>et al.</i> 2004	5283	Not specific to high risk groups
Hanif <i>et al.</i> 2008	6346	Screening
Harper <i>et al.</i> , 1990		Not at risk groups
Kind & Gudex 1994	6067	Not specific to PD/ CHD prevention
Kyle 1993	5905	Not awareness raising or ARG identification
Lazenblatt <i>et al.</i> 1999	6304	Description only
Leslie <i>et al.</i> 2005	5677	Not awareness raising or ARG identification
MacDonald <i>et al.</i> 2007	5192	Background information
Maryon-Davis 2007	5247	Discussion paper; primary care
Maynard <i>et al.</i> 2009	5079	Main focus children; no evaluation
McCarthy <i>et al.</i> 2008	6125	Not awareness raising or ARG identification
McDowell <i>et al.</i> 1997	5416	Not specific to high risk groups
McKenna & Vernon 2004	6210	Not awareness raising or ARG identification
McQuigg <i>et al.</i> 2005	5681	Not awareness raising or ARG identification
Molloy & Caraher 2000	6285	Discussion paper
Moore <i>et al.</i> 2003	5991	Not specific to high risk groups
Murray <i>et al.</i> 1993	5903	Not awareness raising or ARG identification
Neal <i>et al.</i> 2006	6555	Primary care; not specific to PD/ CHD prevention

Author	Ref ID	Reason for exclusion
Nelson <i>et al.</i> 2006	5640	Not awareness raising or ARG identification
O'Halloran <i>et al.</i> 2009	5534	Not awareness raising or ARG identification
Read <i>et al.</i> 2004	5722	Not awareness raising or ARG identification
Stubeitsky & Mela 2000	6868	Not specific to high risk groups
Taylor <i>et al.</i> 1998	6230	Not awareness raising or ARG identification
Tessier <i>et al.</i> 2000	5820	Not awareness raising or ARG identification
Thompson & Phillips 2007	6286	Discussion paper
Whitehead <i>et al.</i> 2009	6248	Not specific to high risk groups

References of excluded studies

Anderson C. Health promotion in community pharmacy: the UK situation. *Pt Ed and Counseling* 39, 285-291, 2000

Berlanga, F., Eltringham-Cox, A., Burr, W.A., Nagi, D.K. Physical activity in type 2 diabetes. Its role and the current care pattern: a survey of diabetes health care professionals in the UK. *Practical Diabetes International*, 17, 60-61, 2000.

Blenkinsopp, A., Tann, J., Platts, A. & Allen, J. Evaluation of feasibility and acceptability of a community pharmacy health promotion scheme - views of users and providers. *Health Education Journal*, 61, 52-69, 2002.

Brown, I., Stride, C., Psarou, A., Brewins, L. & Thompson, J. Management of obesity in primary care: nurses' practices, beliefs and attitudes. *Journal of Advanced Nursing*, 59, 329-341, 2007.

Buckler, DG. General practitioners' training for, interest in, and knowledge of sports medicine and its organisations. *British Journal of Sports Medicine*, 33, 360-363, 1999.

Buetow, S. & Docherty, B. The seduction of general practice and illegitimate birth of an expanded role in population health care. *Journal of Evaluation in Clinical Practice*, 11, 397-404, 2005.

Buffart, L.M., van der Ploeg, H.P., Smith, B.J., Kurko, J., King, L., Bauman, A.E. General practitioners' perceptions and practices of physical activity counselling: changes over the past 10 years. *British Journal of Sports Medicine*, 43, 1149-1153, 2008a.

Buffart, L.M., Allman-Farinelli, M., King, L.A., van der Ploeg, H.P., Smith, B.J., Kurko, J. & Bauman, A.E. Are general practitioners ready and willing to tackle obesity management? *Obesity Research & Clinical Practice*, 2, 189-194, 2008b.

Byrne, M., Cupples, M.E., Smith, S.M., Leathem, C., Corrigan, M., Byrne, M.C. & Murphy, A.W. Development of a complex intervention for secondary prevention of coronary heart disease in primary care using the UK Medical Research Council framework. *American Journal of Managed Care*, 12, 253-254, 2006.

Cadman, L. & Wiles, R. Nutrition advice in primary care: evaluation of practice nurse nutrition training programmes. *Journal of Human Nutrition and Dietetics*, 9, 147-156, 1996.

Counterweight Project Team Engaging patients, clinicians and health funders in weight management: the Counterweight Programme. *Family Practice*, 25 (Suppl. 1), i79-i86, 2008.

Douglas, F., Torrance, N., van, Teijlingen, E., Meloni, S. & Kerr, A. Primary care staff's views and experiences related to routinely advising patients about physical activity. A questionnaire survey. *BMC Public Health*, 6, 138, doi: 10.1186/1471-2458-6-138, 2006.

Dunkley, A.J., Stone, M.A., Patel, N., Davies, M.J. & Khunti, K. Waist circumference measurement: knowledge, attitudes and barriers in patients and practitioners in a multi-ethnic population. *Family Practice*, 26, 365-371, 2009.

Eley Morris, S., Lean, M.E.J., Hankey, C.R. & Hunter, C. Who gets what treatment for obesity? A survey of GPs in Scotland. *European Journal of Clinical Nutrition*, 53 (Suppl. 2), s44-s48, 1999.

Greenwood, D.C., Cade, J.E., Draper, A., Barrett, J.H., Calvert, C. & Greenhalgh, A. Seven unique food consumption patterns identified among women in the UK Women's Cohort Study. *European Journal of Clinical Nutrition*, 54, 314-320, 2000.

Hankey, C.R., Eley, S., Leslie, W.S., Hunter, C.M. & Lean, M.E. Eating habits, beliefs, attitudes and knowledge among health professionals regarding the links between obesity, nutrition and health. *Public Health Nutrition*, 7, 337-343, 2004.

Hanif, M.W., Valsamakis, G., Dixon, A., Boutsiadis, A., Jones, A.F., Barnett, A.H. & Kumar, S. Detection of impaired glucose tolerance and undiagnosed type 2 diabetes

- in UK South Asians: an effective screening strategy. *Diabetes Obesity & Metabolism*, 10, 755-762, 2008.
- Harper AS., Farrally MR., Emery AM., McGlew TJ., Lyon A., Docherty G., Russell M. The Vale of Leven health promotion project. *BJGP* 40, 64-66, 1990.
- Kind, P. & Gudex, C.M. Measuring health status in the community: a comparison of methods. *Journal of Epidemiology and Community Health*, 48, 86-91, 1994.
- Kyle, A. Are practice nurses an effective means of delivering dietary advice as part of health promotion in primary health care? Evaluation of practice nurse training in Somerset. *Journal of Human Nutrition and Dietetics*, 6, 149-162, 1993.
- Lazenbatt, A., Ott, J., Bradley, M. & McWhirter, L. *Journal of Advanced Nursing*, 30, 1280-1288, 1999.
- Leslie, W.S., Hankey, C.R., McCombie, L. & Lean, M.E.J. Weight management: a survey of current practice in secondary care NHS settings in 2004. *Journal of Evaluation in Clinical Practice*, 11, 462-467, 2005.
- Macdonald, L., Cummins, S. & Macintyre, S. Neighbourhood fast food environment and area deprivation-substitution or concentration? *Appetite*, 49, 251-254, 2007.
- Maryon-Davis, A. Weight management in primary care: how can it be made more effective? *Proceedings of the Nutrition Society*, 64, 97-103, 2007.
- Maynard, M.J., Baker, G., Rawlins, E., Anderson, A. & Harding, S. Developing obesity prevention interventions among minority ethnic children in schools and places of worship: The DEAL (DiEt and Active Living) study. *BMC Public Health*, 9, 480, doi:10.1186/1471-2458-9-480, 2009.
- McCarthy, S., Pufulete, M. & Whelan, K. Factors associated with knowledge of genetics and nutritional genomics among dietitians. *Journal of Human Nutrition and Dietetics*, 21, 547-554, 2008.
- McDowell, N., McKenna, J. & Naylor, P.J. Factors that influence practice nurses to promote physical activity. *British Journal of Sports Medicine*, 31, 308-313, 1997.
- McKenna, J. & Vernon, M. How General Practitioners promote 'lifestyle' physical activity. *Patient Education and Counseling*, 54, 101-106, 2004.

McQuigg, M., Brown, J., Broom, J., Laws, R.A., Reckless, J.P., Noble, P.A., Kumar, S., McCombie, E.L., Lean, M.E., Lyons, G.F., Frost, G.S., Quinn, M.F., Barth, J.H., Haynes, S.M., Finer, N., Ross, H.M., Hole, D.J. Empowering primary care to tackle the obesity epidemic: the Counterweight Programme. *European Journal of Clinical Nutrition*, 59 (Suppl. 1), S93-S100, 2005.

Molloy, J. & Caraher, M. Public health and the role of the nurse: the need for greater clarity. *British Journal of Community Nursing*, 5, 431-435, 2000.

Moore, H., Summerbell, C.D., Greenwood, D.C., Tovey, P., Griffiths, J., Henderson, M., Hesketh, K., Woolgar, S. & Adamson, A.J. Improving management of obesity in primary care: cluster randomised trial. *British Medical Journal*, 327, 1085, doi:10.1136/bmj.327.7423.1085, 2003.

Murray, S., Narayan, V., Mitchell, M. & Witte, H. Study of dietetic knowledge among members of the primary health care team. *British Journal of General Practice*, 43, 229-231, 1993.

Neal, R.D., Ali, N., Atkin, K., Allgar, V.L., Ali, S. & Coleman, T. Communication between South Asian patients and GPs: comparative study using the Roter Interactional Analysis System. *British Journal of General Practice*, 56, 869-875, 2006.

Nelson, P., Adamson, A. & Moore, H. Conducting randomised controlled trials in primary care: lessons from an obesity management trial. *British Journal of General Practice*, 56, 674-679, 2006.

O'Halloran, P., Tzortziou Brown, V., Morgan, K., Maffulli, N., Perry, M. & Morrissey, D. The role of the sports and exercise medicine physician in the National Health Service: a questionnaire-based survey. *British Journal of Sports Medicine*, 43, 1143-1148, 2009.

Read, A., Ramwell, H., Storer, H. & Webber, J. A primary care intervention programme for obesity and coronary heart disease risk factor reduction. *British Journal of General Practice*, 54, 272-278, 2004.

Stubenitsky, K. & Mela, D.J. UK consumer perceptions of starchy foods. *British Journal of Nutrition*, 83, 277-285, 2000.

Taylor, A.H., Doust, J. & Webborn, N. Randomised controlled trial to examine the effects of a GP exercise referral programme in Hailsham, East Sussex, on modifiable

coronary heart disease risk factors. *Journal of Epidemiology and Community Health*, 52, 595-601, 1998.

Tessier, S., Morris, S.E. & Lean.M.E.J. The demand and supply of nutritional advice and guidance in Scottish family planning services. *The British Journal of Family Planning*, 26, 97-99, 2000.

Thompson, S. & Phillips, D. Reaching and engaging hard-to-reach populations with a high proportion of non-associative members. *Qualitative Health Research*, 17, 1292-1303, 2007.

Whitehead, K., Langley-Evans, S.C., Tischler, V. & Swift, J.A. Communication skills for behaviour change in dietetic consultations. *Journal of Human Nutrition & Dietetics*, 22, 493-500, 2009.

Appendix 3: Search Strategies and Details of Evidence Sources

Mapping Review Search Strategies

Sample Search Strategy Search One Mapping Review Medline (via OVID)

1 (prediabetes or pre?diabetes).ti,ab.

2 ((impaired glucose adj (level* or tolerance or regulation or metabolism)) or raised glucose tolerance or IGT or impaired fasting glucose or insulin resistance or metabolic syndrome or hyperinsulinaemia or non diabetic hyperglycaemia or abnormal blood glucose level* or dysglycaemia or intermediate hyperglycaemia).ti,ab.

3 (((type II or type 2) N1 diabetes) or T2D).ti,ab.

4 1 or 2 or 3

5 *prediabetic state/ or *diabetes mellitus, type 2/

6 (risk* or prevent* or reduce* or protect* or limit* or control*).ti,ab.

7 *risk reduction behaviour/ or *risk factors/

8 ((prediabetes or pre?diabetes or ((impaired glucose adj (level* or tolerance or regulation or metabolism)) or raised glucose tolerance or IGT or impaired fasting glucose or insulin resistance or metabolic syndrome or hyperinsulinaemia or non diabetic hyperglycaemia or abnormal blood glucose level* or dysglycaemia or intermediate hyperglycaemia) or (((type II or type 2) adj diabetes) or T2D)) adj5 (risk* or prevent* or reduce* or protect* or limit* or control*).ti,ab.

9 4 and 7

10 6 and 5

11 8 or 10 or 9

12 great britain/ or england/ or scotland/ or wales/ or northern ireland/

13 (uk or united kingdom or britain or gb or england or scotland or wales or northern ireland).ti,ab.

14 13 or 12

15 11 and 14

16 limit 15 to (english language and humans and yr="1990 -Current")

17 from 16 keep 1-912

Sample Search Strategy Search Two Mapping Review Medline (via OVID)

1. (south asia* or black africa* or black caribbean* or pakistan* or bangladesh* or india* or (Ethnic adj1 minorit*)).ti,ab.
2. (blue collar or working class or underclass or low* class or low* income or poverty).ti,ab.
3. social* exclu*.ti,ab.
4. social* inclu*.ti,ab.
5. (depriv* or disadvantage* or inequalit* or underprivilege*).ti,ab.
6. *income/ or *poverty areas/ or *social class/ or *socioeconomic factors/
7. 1 or 2 or 3 or 4 or 5 or 6
8. *body mass index/ or *obesity/ or *food habits/
9. (obes* or waist circumference or BMI or nutrition or "bmi > 3?" or "bmi > 24" or diet or overweight).ti,ab.
10. (weight adj (gain or change or retention)).ti,ab.
11. *Motor Activity/ or *Exercise/
12. (physical* inactiv* or physical* activ* or physical exercise).ti,ab.
13. (sedentary lifestyle* or active lifestyle*).ti,ab.
14. *Physical exertion/ or *Physical fitness/
15. (blood pressure or cardiovascular disease or blood cholesterol).ti,ab.
16. (history adj5 diabet*).ti,ab.
17. gestational diabetes.ti,ab.
18. *Diabetes, gestational/ or *Genetic predisposition to disease/
19. (genetic* or hereditary).ti,ab.
20. (behaviour change or social marketing).ti,ab.
21. *social marketing/ or *health behaviour/ or *health knowledge, attitudes, practice/ or *health promotion/
22. (diabetes education or cultural sensitivity or culturally competent).ti,ab.
23. *cultural competency/ or *communication barriers/
24. 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23
25. great britain/ or england/ or scotland/ or wales/ or northern ireland/

26. (UK or United Kingdom or Britain or GB or England or Scotland or Wales or Northern Ireland).ti,ab.
27. 25 or 26
28. 7 and 24 and 27
29. limit 28 to (english language and humans and yr="1990 -Current")

List of Databases Searched for Mapping Review

Medline via OVID SP

Embase via OVID SP

CINAHL via EBSCO

British Nursing Index via OVID SP

The Cochrane Library via Wiley

Science Citation Index via Thomson ISI

Social Science Citation Index via Thomson ISI

PsycINFO via OVID SP

Additional Websites Searched for Mapping Review

Diabetes UK

<http://www.diabetes.org.uk/>

NHS Evidence specialist collection for Diabetes

<http://www.library.nhs.uk/diabetes/>

NHS Evidence specialist collection for Ethnicity and Health

<http://www.library.nhs.uk/ethnicity/>

Sample Search Strategy for Review Three based on syntax for Medline via Ovid. Search strategy grounded on evidence capture from the mapping review.

1. (south asia* or black africa* or black caribbean* or pakistan* or bangladesh* or india* or (ethnic adj1 minorit*)).ti.
2. (blue collar or working class or underclass or low* class or low* income or poverty).ti.
3. social* exclu*.ti.
4. social* inclu*.ti.
5. (depriv* or disadvantage* or inequalit* or underprivilege*).ti.
6. *income/ or *poverty areas/ or *social class/ or *socioeconomic factors/ or *gypsies/ or *vulnerable populations/
7. (hard to reach or marginalised communit* or social cohesion or gypsy-traveller* or romany or romani or roma or gipsy or seldom heard).ti.
8. 1 or 2 or 3 or 4 or 5 or 6 or 7
9. (population surveillance or public health surveillance or monitoring or surveillance system* or community mapping or community assessment or community identification or community based questionnaire* or needs assessment or opportunistic screening).ti.
10. *population surveillance/ or *health promotion-methods/ or *needs assessment/
11. 9 or 10
12. 8 and 11
13. (south asia* or black africa* or black caribbean* or pakistan* or bangladesh* or india* or (ethnic adj1 minorit*)).ti,ab.
14. (blue collar or working class or underclass or low* class or low* income or poverty).ti,ab.
15. social* exclu*.ti,ab.
16. social* inclu*.ti,ab.

17. (depriv* or disadvantage* or inequalit* or underprivilege*).ti,ab.
18. income/ or poverty areas/ or social class/ or socioeconomic factors/ or gypsies/ or vulnerable populations/
19. (hard to reach or marginalised communit* or social cohesion or gypsy-traveller* or romany or romani or roma or gipsy or seldom heard).ti,ab.
20. 13 or 14 or 15 or 16 or 17 or 18 or 19
21. (population surveillance or public health surveillance or monitoring or surveillance system* or community mapping or community assessment or community identification or community based questionnaire* or needs assessment or opportunistic screening).ti,ab.
22. population surveillance/ or health promotion-methods/ or needs assessment/
23. 21 or 22
24. (dietary change or healthy eating or wellbeing or weight management or health gain or population health or social cohesion or lifestyle change or social wellbeing).ti,ab.
25. (Lifestyle change or behavior change).ti,ab.
26. exercise/ or diet/ or nutritional physiological phenomena/
27. 24 or 25 or 26
28. 20 and 23 and 27
29. 12 or 28
30. (health professional* or health visitor* or nurse* or general practitioner* or doctor* or GP* or clinician* or community nurs* or district nurs* or primary care practitioner* or social work* or practice nurs* or dietitian* or public health nutritionist* or pharmacist* or PHN or PHNutr or nutritionist).ti,ab.
31. (multidisciplinary care team* or interdisciplinary care team*).ti,ab.
32. Health care personnel/ or nurses/ or physicians, family/ or pharmacists/ or patient care team/ or allied health personnel/
33. 20 or 30 or 31 or 32

34. (pre registration nurs* or community participation or community based approaches or minority integration or rural healthcare provision or multicultural consultation or behavior modification or group work or community development or nurse education programme* or staff education or transcultural nursing or cultural* congruent care or health ambassador* or collaborative working or health educator* or community initiative or mobilize communities or needs assessment or health trainers or community screening or community involvement or nutrition education or practitioner education or practice development planning or transcultural educational model* or multicultural nursing or behavioral intervention* or consumer involvement or ethnic-sensitivity* or education* or training or awareness raising or continuing professional development or cpd or communication or marketing).ti,ab.

35. consumer participation/ or community-institutional relations/ or transcultural nursing/ or staff development/ or curriculum/ or education, Nursing/ or nurse patient relations/ or attitude of health personnel/ or preventative medicine/ or models, educational/ or learning/ or teaching/ or Inservice training/

36. 34 or 35

37. 36 and 27

38. 33 and 37

39. (attitude* or preference* or cultural aware* or cultural sensitivity or cultural understanding or low cultural understanding or perception* or language* or social determinant* or ethnocentric or neighbourhood or residence or health related behavior or population stratification or sustainable programme* or nursing competence* or discrimination or inequality or adaptability of services or communication barrier* or Interpersonal barrier* or practitioner client communication or transcultural communication competence or professional stakeholder* or statutory organisation* or health equality or service user perception* or GP view* or patient view* or professional perspective* or religious leader* or professionalism or shared vision or practitioner perspective* or health care decision maker* or participatory appraisal or health status or questionnaire or Interview or focus group* or participant observation or delphi study or group meeting* or feedback or video-tape instruction or role-play or telephone survey or health authority* or local authority*).ti,ab.

40. ((monitoring or assessment) adj2 practice).ti,ab.

41. ((design or delivery) adj3 service*).ti,ab.

42. cultural competency/ or cultural diversity/ or communication barriers/ or health planning/ or attitude of health personnel/ or delphi technique/

43. 39 or 40 or 41 or 42

44. 33 and 43 and 27

45. 29 or 38 or 44

46. great britain/ or england/ or scotland/ or wales/ or northern ireland/

47. (UK or United Kingdom or Britain or GB or England or Scotland or Wales or Northern Ireland).ti,ab.

48. 46 or 47

49. 45 and 48

List of Databases Searched for Review Three

Medline via OVID SP

Embase via OVID SP

CINAHL via EBSCO

Cochrane Library via Wiley

Science Citation Index via Thomson ISI

Social Science Citation Index via Thomson ISI

PsycINFO via OVID SP

EPPI Centre Databases – Bibliomap, Database of Promoting Health Effectiveness Reviews (DoPHER), Trials Register of Promoting Health Interventions (TRoPHI), The database on Obesity and Sedentary behaviour studies

<http://eppi.ioe.ac.uk/cms/>

Additional Sources Searched for Review Three

Grey Literature

British Library Integrated Catalogue

http://catalogue.bl.uk/F/?func=file&file_name=login-bl-list

Conference papers index (via CSA)

Medical Research Council

<http://www.mrc.ac.uk/>

Economic and Social Research Council.

www.esrc.ac.uk/

Websites

Association of Public Health Observatories

www.apho.org.uk/

NHS Evidence: National Library for Public Health

www.library.nhs.uk/publichealth/

The Joseph Rowntree Foundation

www.jrf.org.uk/

Diabetes UK

<http://www.diabetes.org.uk/>

Other Sources

Scopus (via Elsevier)

Web of Science (via Thomson ISI)

NHS Economic Evaluation Database (NHS EED via Wiley)

EconLit (via Ovid SP)

The Public Health Interventions Cost Effectiveness Database (PHICED)

www.yhpho.org.uk/nph/nphresults.asp

Google Scholar

<http://scholar.google.co.uk/>

Appendix 4: Quality assessment table

Study	1	2	3	4	5	6	7	8	9	10	11	12	13	Limitations	14	Quality rating
Chambers 2007	++	++	++	++	-	+	-	+	+	++	+	++	+	NS	+	+
Farooqi 2001	+	+	+/-	NC	NC	+	-	NR	+/-	-	-	+	+	NS	NA	-
Graham 2005	++	+	+	+	NR	+	-	NR	+	NR	+	++	+	NS	NR	+
Hampton 2000	+	-	-	+	-	+	++	NC	+	NR	+	+	+	NS	NA	+
Kennedy 2008	++	++	++	++	+	+	+	++	++	+	++	++	++	++	NA	++
Lazenbatt 2000 (Lazenbatt 1999)	++	+	+	+	-	+	-	+	++	-	+	++	+	++	NA	+
Pope 1995	++	+	-	+	-	+	-	NR	+	NR	-	-	-	NS	NA	-
Rankin 2009	+	+	+	+	-	+	+	+	+	+	++	+	+	+	+	+

1. Is a qualitative approach appropriate?
2. Is the study clear in what it seeks to do?
3. How defensible/rigorous is the research methodology?
4. How well was the data collection carried out?
5. Is the role of the researcher clearly described?
6. Is the context clearly described?
7. Were the methods reliable?
8. Is the data analysis sufficiently rigorous?
9. Is the data 'rich'?
10. Is the analysis reliable?
11. Are the findings convincing?
12. Are the findings relevant to the aims of the study?
13. Conclusions
14. How clear and coherent is the reporting of ethics?

Appendix 5: Narrative description of included studies

Chambers & Narayanasamy (2008). A discourse and Foucauldian analysis of nurses' health beliefs: implications for nurse education

Interviews were carried out with 12 female registered nurses in Nottingham and Derby. Four nurses worked in general medicine, 6 in general surgery, 1 in coronary care and 1 in the community. The aim of the study was to investigate nurses' constructions of health in order to determine what influence these have on their health promotion practices. Data from the interviews was assessed using discourse analysis (assuming that discourses are "structures of knowledge, claims and practices through which we understand, explain and decide things and exercise control" (p.157).

Two main sets of opposing values were found in conversations with nurses. The first derived from a conventional nursing ethos, holism. The second was individualistic ideology. Accounts given by the same participants oscillated between the two values. In terms of understanding how health choices were influenced by poor socio-economic circumstances, accounts would move between empathy and a less sympathetic stance. The first stance acknowledges that lack of money is a barrier to eating healthily, whilst the second places responsibility for wellbeing on the individual despite the potential barrier of low income.

The authors place these accounts in two categories, role-based, in which nurse training and the 'scripts' that are related to philosophies of nursing come through. Such philosophies included holism in which health is dependent on several related aspects including physical, social and psychological wellbeing, which 'make the whole person'. Another was choice and decision-making – nurses acknowledge that although information is available and ought to be given, people need to make their own choices. Another was empathy – concern for the health plights of low-income groups. There was acknowledgement that whilst many in society can choose to buy healthy foods and go on holiday, others have no such options. Healthier foods were seen to be more expensive and therefore less accessible. This understanding of others, the ability to be able to partially enter the frame of reference is considered to be the key to better caring and a crucial determinant of the therapeutic relationship.

In contrast to role-based accounts, 8 of the nurses sought to explain the role of the individual in health maintenance. Health is presented in a social vacuum, a neutral phenomenon that assumes everyone has equal opportunities. Part of this self-care was taking advice from health professionals; failure to take responsibility for health or take professional advice was linked to negative consequences such as illness. By adopting this stance (which the authors claim is entrenched within New Right ideology), constraints imposed by advertising, economic pressures such as housing, demands of the family, employment and income are not acknowledged. This assumes that people can choose between good and poor health practices, and that illness is socially structured and patterned with lower income groups experiencing more ill health than other groups in society.

Conclusions: The study exposed a tension between two social 'facts' within respondent accounts, which are in turn socially constructed. The authors conclude that when nurses were expressing health within a holistic framework they were not natural actors but performers or social characters. They were following a script learnt as a result of nursing education which defined their role as nurses. They were responding in a way perceived to be consistent with that role. The authors refer to 'I' and 'me' accounts, originally referred to by Mead (1934) where 'me' is prescriptive and largely a performance, whilst 'I' is more concerned with the self as an independent agent who thinks, and has values and wants. This role incongruity commonly occurs when individuals undergo a transitional process involving a significant modification in attitudes and values such as those acquired during education programmes. The role of the nurse is learned through the socialisation process whereby the values, expected behaviour, rewards and sanctions that define a nurse are adopted.

Implications: If it is to enable nurses to undertake health education within a social rather than an individualistic model of health the curricula must be more aware that primary socialisation is more powerful and enduring than any other 'secondary' socialising agency such as nurse education. It needs to acknowledge that acquisition of knowledge, skills and values is not unproblematic and that first of all, nurses' own lay beliefs need to be exposed and the tensions explored between them and nursing ideology. A powerful way to do this is through critical reflection of personal health values and norms and the social structures that are instrumental in constructing them ('double loop learning' – Argyris *et al.*, 1985).

Reviewer comments: The assumptions made in this paper may be generalised to training across community work in terms of health promotion. It provides a rationale for utilising the skills and knowledge, but mainly the shared social socialisations (maybe?) of those from the same socio-economic or BME groups as the target audience. It also offers some insight into potential barriers that occur in providing health promotion to at risk groups (i.e. the need for shared understanding), and ways of possibly overcoming these (i.e. critical reflection). Critical reflection techniques therefore are an important part of training for those involved in health promotion with at risk groups.

Farooqi & Bhavsar (2001). Project Dil: A co-ordinated primary care and Community Health Promotion Programme for reducing risk factors of coronary heart disease amongst the South Asian community of Leicester – experiences and evaluation of the project

Farooqi and Bhavsar reported on a Community Health Promotion Programme (Project Dil), which was designed to improve the effectiveness of primary and secondary prevention of heart disease (CHD) in volunteer Leicestershire general practices with a high percentage of S. Asian patients. Increased awareness of lifestyle risk factors amongst the S. Asian community was facilitated by use of South Asian media (TV, radio and newspapers) and peer education to disseminate health messages. Twenty-three general practice teams (62 GPs) with a high proportion of South Asian patients participated. Peer educator activity included 9 dietary programmes in the community and 5 physical activity programmes (e.g. led walks, GP referral). Findings from participating practices were compared with similar non-project practices. An interim evaluation is reported.

- Peer educators were trained in delivering messages on physical activity, diet, obesity and diabetes as well as in dissemination messages and other topics (South Asians and risk, smoking and alcohol).
- Each practice team was invited to participate in 9 hours of PGEA accredited training to address issues relevant to CHD service provision. 20 general practices completed the training programme (57 GPs, 94 nurses / managers / clerical staff).

The authors comment that uptake and attendance in practices was high, and clinical audit has increased, showing significant improvement in quality and standards of

care. Equally, there was enthusiasm in the response to general media campaigns as well as the peer education programme.

Facilitators:

- Funding from the Department of Health
- Publication of the CHD National Service Programme
- 50 students (bilingual) were recruited onto the peer education programme, 45 of whom completed the course.
- Whilst knowledge of CHD and risk factors was high pre and post intervention (100%), there was improvement following peer education in the ability to define or describe peer education (54% - 100%) and, method of delivery (63% - 87%), and identification of methods to access funding (79% - 100%).
- Types of activity carried out by peer educators (54 in total) included:
 - Health fairs / days at community venues (5)
 - Health displays (19)
 - Talks / presentations to community groups on lifestyle risk factors (19)
 - Physical activity sessions and walking groups(10)
 - Secondary prevention training with practice nurses (1)

The authors reported a high level of community enthusiasm to engage with the project both in response to general media campaigns and in particular the peer education programme, including both volunteers for training and participation in events. Recognition and acceptance that activity aimed at addressing ethnic-specific.

Graham *et al.* (2005). Health professionals' perspectives in exercise referral: implications for the referral process

A postal survey (n=144) and semi-structured interviews of GPs was carried out to investigate the exercise referral process from the health professional's perspective. Specifically, the aims were to examine perceived barriers to referral, priority given to the scheme in day-to-day consultations, perceived importance of the GP role in the process as well as referring practices.

- Methods of identifying at risk groups was ad hoc and based on patients asking about exercise themselves, random discussion during consultations,

requests for referral by another doctor, and asking patients to choose from a few behaviour changes activities that might produce benefits.

Hampton *et al.* (2000). Communicating health messages to marginalised communities – a culture sensitive approach

Eleven women (7 of Pakistani, 2 of Indian and 2 of Chinese origin; of Muslim, Hindu and Christian religious background) undertook formal training to become 'Community Health Workers' (CHWs) and were paid in this role by the Health Education Board for Scotland for their work. The core training programme covered relevant information about healthy eating and non-insulin dependent diabetes (and also information relating to breast and cervical cancer).

Lay women above the age of 55 from Asian and Chinese communities were recruited and trained by health professionals to take specific health messages using appropriate languages, back to the target group.

Training

There was a core programme covering relevant information including healthy eating and T2 diabetes. This was designed by the project team. CHWs received 20x 2 hour sessions over 20 weeks with additional refresher sessions during the implementation phase. Training took the form of workshops, role play and group discussions. Visits were made to well woman clinics.

The aim of the study was to evaluate the intervention using qualitative methods, including observation, focus groups, interviews and the use of networking sheets.

The evaluation was carried out in parallel to implementation of the programme as it was being developed and assessments were carried out before, during and after implementation.

Over an 18-month period, the CHWs managed to reach and work with over 2000 women from the target communities (South Asian and Chinese). Semi-structured interviews, recordings from groups discussions and 'networking sheets' (designed to assist CHWs in recording contacts and appointments, plan the time, topic, delivery methods and preparation time of sessions and self-evaluate, helping the CHWs to operate in an organised manner, similar to a professional health promotion worker) were used in the evaluation of the programme.

The interviewees' attitudes towards food preparation and their views on eating habits were the most notable impact of the diabetes sessions. Qualitative data indicated that many participants had altered their diet and methods of food preparation in many ways since receiving the information on diabetes and healthy eating. Quantitatively, 19.7% believed that the sessions had 'very much' influenced their diet.

- Respondents appeared to like the way in which traditional western health messages and healthy eating plans were adapted and delivered to suit their cultural backgrounds during the programme.
- One resource was especially popular – a bilingual Asian healthy eating recipe book designed by a group of CHWs (produced by the Health Education Board for Scotland), which allowed participants and CHWs to become part of the process and relate more closely to the messages being delivered.
- A key factor in the success of the programme was a “tremendous team spirit” that existed throughout the project. The authors highlighted that regular group discussion meetings among CHWs, trainers, the project team and evaluators was instrumental, through providing a forum for discussion.
- Sharing experiences and considering new developments contributed to the systematic monitoring and smooth management of the community work and to the establishment of a trusting partnership between lay and professional members.
- In the initiating process, dialogue with members of the target group was crucial so that appropriate links could be made with the target communities.
- Members of the project team were aware that the target population relied on younger members of their community to pass on general information, assist with interpretation and provide other support.
- A flexible approach allowed the work to extend well beyond initial expectations – from 'known' community centres or projects to a wide range of settings.
- The main points of contact where people were reached were local community centres, health information points, a Chinese health gala, diabetes road shows and GP practices.

Barriers

- In certain settings managers were at times reluctant or unable to allow CHWs time to conduct health promotion work as scheduled activities took precedence. However over 18 month's more than 2000 women from target communities were reached.
- In terms of raising awareness of diabetes within the target populations, 19% of the consenting 76 participants knew nothing at all prior to the sessions, and only 25.6% knew a lot. Following the sessions, 52.6% stated they had learned a few new issues, and 28.9% stated that they had learned quite a lot.
- The most significant impact was interviewees' attitudes toward food preparation and views on eating habits. Many participants had altered their diet and methods of food preparation in a number of ways since receiving information on diabetes and healthy eating. 19.7% believed that the sessions had influenced their diet very much.

Qualitative data revealed that respondents were especially impressed with the manner in which traditional western healthy eating plans and messages were adapted and delivered during the programme to suit particular cultural backgrounds. The bilingual Asian healthy eating recipe book designed by CHWs proved very popular by allowing participants and CHWs to become part of the process and relate more closely to the messages being delivered. Asian respondents in particular were impressed with the idea of using appropriate languages to deliver health messages:

It was difficult to measure lifestyle change or direct impact of the programmes but the qualitative accounts showed enthusiasm to alter in a positive manner.

Kennedy *et al.* (2008). Lay food and health worker involvement in community nutrition and dietetics in England: roles, responsibilities and relationship with professionals

The aim of the study was to explore the role of the lay food and health worker (LFHW) in terms of perceptions and definitions of the role, including perceived benefits and possible challenges associated with LFHW initiatives and roles.

The role of the LFHW has been defined as:

“any lay health worker: indigenous to the communities being served, carrying out functions related to the community-based public health initiatives designed to prevent disease or promote health and well-being, with specific focus on food and public

health; trained in some way in the context of the intervention; but having no formal professional or paraprofessional qualifications” (p.212).

All operational LFHW initiatives based in England at the commencement of fieldwork in January 2002 were sampled. The final study sample consisted of 15 initiatives involving 82 respondents, 1/3 professionals (n=29), primarily community dietitians (N=24) employed by LFHW projects and 2/3 lay people employed as LFHW (n=53). All LFHW projects were positioned in and served areas characterised by low SES, at least half of which were located in areas with large BME communities.

There was a consensus that the primary role was to promote healthy eating; of “*supporting people to make small dietary changes*” (p.220).

- A key characteristic of the LFHW is that they are known to the community and are therefore well placed to identify and communicate with those in need of advice locally.
- The role of LFHWs was also seen as reinforcing existing healthy eating messages, translating them into more practical or user-friendly advice:
- Identification of groups was through outreach
- The ‘Cook and Taste’ sessions in particular were discussed in some detail.
- Unlike ‘busy’ professionals, LFHWs were perceived as being more likely and better able to provide practical and culturally relevant advice. Outreach was perceived as an activity that could be performed well, mainly because of the lack of pressures compared to health professionals.

In the discussion, the authors suggest: “*although it is quite possible that LFHWs can support health professionals in a broader strategic approach, there was insufficient evidence from the data here to support this.*” (p.221)

Lazenbatt *et al.* (2000). Community nursing achievements in tackling inequalities in health in Northern Ireland

A survey study was carried out to give an overview of the contribution of nurses, midwives and health visitors working in the community, and that of voluntary groups to ‘targeting health and social need’ (THSN). Questionnaires (1000) were distributed, with a response rate of n=392 (almost 40%).

44% of nurses perceived THSN as the identification of the health needs of groups, while 24% interpreted it as the use of health promotion strategies that focus on personal empowerment and community development. 16% had difficulty defining THSN although 12% thought that they were following Government health strategies and targets. 4% viewed needs assessment as a feature of health promotion activity.

Analysis of 22 included interventions was carried out to define aspects of 'good practice'. Of the interventions, 20% did not prioritise or understand the relationship between health and social need so were eliminated from phase 2. 59% of the total initiatives were judged to use more systematic evaluation techniques and research methods.

Limitations to evaluation:

- Lack of rigorous quantitative research design
- Small number of participants and no control groups
- Limited description of contents
- Limited evidence of Cost Effectiveness
- Evaluation often after the event and not clearly related to project aims and objectives
- Unrealistically short time scale, often the result of short term funding
Results not always disseminated beyond internal structures
- Those interventions that had been evaluated in more detail considered processes of development and implementation as well as outputs and outcomes. THSN is complex and multi-faceted, drawing on different theoretical and practical concepts.

Barriers / facilitators to nurses working effectively within the initiatives:

- Accessibility of research based evidence to inform good practice
The view of nurses as secondary workers, particularly when publishing evaluations
- Fulfilling all commitments with heavy caseloads – most community initiative work done in evenings and at weekends

- Commitment from a few to the degree that they used their own money – need for adequate funding
- Working in isolation; lack of communication between projects
- Need for authority and autonomy to empower clients and collaborate with other professionals
- Conflicts that arise through lack of open communication
- Gulf in terms of experience between those that commission the projects and those that work in the field.

Views

- Use of the ‘Community Action Model’ was discussed, which aims to mobilise disadvantaged communities. Nurses in this model would empower people to make choices about adopting healthier lifestyles, increase access to services and alleviate structural factors underlying health and social problems.
- Empowerment was used as a health promotion tool to help people to address many of the social issues associated with low SES.
- Several interventions/projects emphasised the need to involve local people and groups in decisions when planning and delivering an intervention.

Limitations

RCTs are seen as difficult to carry out in this area to a sufficiently rigorous standard (e.g. allocating community members to intervention / control), therefore it is difficult to assess effectiveness.

Reviewer’s comments

In the discussion, the authors state that policy on THSN in Northern Ireland “*aims to reduce increases in socio-economic differentials by monitoring the outcomes of interventions both in the health field and in other policy fields related to health... [to] offer information on how well these effective interventions perform in a given situation, allowing the programme to be amended if the uptake is not equitable*” (p189).

The authors highlight some of the barriers and facilitators to assessing the effectiveness of interventions that aim to reduce inequalities within the community. Nurses are well placed due to their understanding of needs and holistic care, to be involved in such interventions, but have often to work longer hours in order to combine such work with caseloads. A lack of rigorous evaluation due to the complex nature of such interventions makes assessment of effectiveness difficult.

Lazenbatt *et al.* (1999). The role of nursing partnership interventions in improving the health of disadvantaged women (same study as above)

Reported on the 'targeting health and social need' (THSN) project in Northern Ireland and sampled 1000 nurses working within the context of inequalities in health (response rate 39%). Case studies of interventions undertaken.

Several interventions used community development, within which approach an attempt was made to mobilise disadvantaged communities to recognise that health inequalities may damage their health. An indicator of 'effective practice' was reported as nurses, midwives and health visitors enabling people to make choices about healthier lifestyles, within a holistic approach.

The Lay Health Worker project (LHW) is a positive example of preventive work by non-medical staff. The project relied on innovation diffusion theory which stresses that the most powerful agents of change in any community are members of the local population who can act as sources of information on health and naturally relate to a wider social network of relatives and friends.

Pope & Cooney (1995). The Heartbeat Award for caterers: experiences of health professionals involved

The study aimed to obtain information concerning the implementation of the Award, as well as its networks, records, recourses and evaluation, by questionnaire. Every Chief Environmental Officer, Health Promotion Officer and Dietitian (or equivalent) in England was surveyed. A total of 380 responses (52% response rate) were received.

Evaluation levels were low (<40% of health authorities), with less than 10% of these supported by a database. Evaluation mainly consisted of inspection by environmental health officers, though methods for evaluation were improving.

There is little evidence concerning the effectiveness of the project itself, though there is evidence of a shift toward healthier lifestyles over recent years.

- Most respondents regarded their CHD prevention work as being relevant to the population as a whole, but specific groups were targeted, especially those of 25-40 years, as well as low SES and BME groups.
- Virtually all respondents stated that the formation of a healthy alliance was key to the prevention strategy. Most of those involved felt that aims and objectives of the project were being met.

Barriers include:

- Lack of resources, time, money
- Difficulties changing traditional shopping and eating patterns among the public
- Lack of commitment from management
- Lack of support at local level

Most commonly stated advantages:

- Feeling of 'ownership'
- Opportunities to meet the needs of local tradesmen and customers
- Enthusiasm and commitment of senior management
- Integration of national and local initiatives.

Just over 50% of respondents viewed the scheme as successful in promoting lifestyle change – though no evidence was available to support this view. Only a small number considered that the Award was effective at reaching 'hard-to-reach groups'. In particular, it was a frequent comment that low-income groups tend not to go to restaurants.

There was unanimous agreement that caterer's involvement in health promotion was important. 75% thought it facilitated collaboration between health professionals and caterers.

A need was also identified for more health promotion information to be made available to caterers in appropriate languages (for minority groups) and the suggestion made to set up a national database for caterers to share examples of good practice.

Work within schools and the workplace was highlighted as an effective means of targeting large numbers of individuals from a wide range of backgrounds with minimal resources.

Rankin *et al.* (2009). Practitioner perspectives on tackling health inequalities: Findings from an evaluation of healthy living centres in Scotland

Six healthy living centres (HLCs) were selected purposively to reflect the range of interests, health outcomes, target communities, organisational structures and geographical locations of HLCs within Scotland. HLCs were established to respond to identified local health improvement needs while complementing local and national health policies.

The authors used a range of qualitative methods, including taped semi-structured and individually tailored interviews, discussion groups, documentary analysis, formal and informal observation of activities, meetings, events and interactions, telephone interviews and ongoing e-mail and telephone contact. Three rounds of fieldwork were conducted; two during phase one and one during phase two. Data analysis was informed by grounded theory principles and constant comparative methodology. As fieldwork progressed, workshops increasingly involved iterative comparative analyses between sites with practitioner accounts of health inequalities emerging as an important theme.

Participants included stakeholders, practitioners (people delivering HLC services directly related to health (e.g. project workers), people whose community roles were linked to addressing health in HLC target groups (e.g. community workers and project staff from local partner organisations) and people with managerial roles who often had direct contact with participants and sometimes overlapping service delivery roles (e.g. project managers/coordinators, chairs of boards)) and service users.

The authors focused on how practitioners made sense of and justified their approach to the task of addressing health inequalities, the challenges they perceived, changes in how inequalities were addressed over time and the resonance of accounts with recent studies on social class.

Main themes:

- Services were found to benefit users in ways additional to those intended, for example food and eating activities originally intended to improve physical health were increasingly delivered in a format perceived as improving social contacts.
- One HLC (site 3) used multiple approaches to bring about a holistic improvement in health in the target population, with affordability and access to services a perceived barrier believed to limit the amount of exercise taken.
- Poverty-related inequalities were felt to be linked to lifestyle priorities and accessibility and in addition class-related issues such as the avoidance of stigma were also considered important for ensuring uptake.
- Marketing the activities as 'health-focused' could be an issue in reaching low SES groups.
- Personal empowerment was also seen as important in reaching the target group and promoting services focused on lifestyle change.
- One project worker suggested that NHS health professionals often focused on quantitative outcomes at the expense of some of the holistic and social benefits of food provision, which were difficult to record.
- It was also suggested that future refinements focus on accessing specific disadvantaged groups:
- Accessing low SES groups and delivering services to the most disadvantaged groups was seen as a challenge.
- The most effective groups were described as being "a bit of a mix" of people from different socioeconomic backgrounds, and attracting a few of the more marginalised people under a 'broad banner' of services was perceived as important and a success.
- The importance of relationship-building with these client groups was emphasised.

The authors suggest their findings illustrate constant evolution in definitions, local structures and wider policies of the most salient manifestations of health inequalities

and/or their underlying causes. In addition to refining and adapting services to take account of developing 'experientially-based' knowledge, practice was subject to outside influences on health inequalities, which affect how significant health issues could be addressed.

Appendix 6: Evidence Tables

Evaluations and qualitative papers

Study details	Population and setting	Research question / Methods	Findings	Comments
<p>Author: Chambers</p> <p>Study design: Interviews</p> <p>Location: Nottingham / Derby, UK</p> <p>Year: 2008</p> <p>Funding: Not stated</p> <p>QUALITY +</p>	<p>Number of participants: 12 registered nurses All female</p> <p>Speciality: General Medicine 4 General surgery 6 Coronary Care 1 Community 1</p>	<p>Research Question: To investigate nurses' constructions of health in order to determine what influence these have on their health promotion practices.</p> <p>Methods used: Interviews; Discourse Analysis</p>	<p>Main Themes relevant to research question:</p> <p>Two main sets of opposing values were found in conversations with nurses. The first derived from a conventional nursing ethos, holism. The second was individualistic ideology. Accounts given by the same participants oscillated between the two values. In terms of understanding how health choices were influenced by poor socio-economic circumstances, accounts would move between empathy:</p> <p><i>"Lack of money means they don't get the right foods. They're probably eating junk food instead of some healthier foods... crisps, beef burgers and things like that, which I don't feel are as healthy as meat and two veg."</i></p> <p><i>"...we can choose to buy healthy foods and go on holidays and things such as that. For others that option is not there, they do not have the money to buy healthier foods because they cost more. Instead they buy food that fills you up like potatoes, chips and beans."</i></p> <p>and a less sympathetic stance:</p> <p><i>"Because people have to pay for something it doesn't mean they can't look after themselves. It's because they don't that they are admitted with problems they could have prevented but they probably just haven't perhaps taken the trouble to care for themselves."</i></p> <p><i>"In our line of work you are always meeting people who cannot afford to take proper care of themselves – they don't buy the right foods"</i></p> <p>The first stance acknowledges that lack of money is a barrier to eating healthily, whilst the second places responsibility for wellbeing on the individual despite the potential barrier of low income.</p> <p>The authors place these accounts in two categories, role-based, in which nurse training and the 'scripts' that are related to philosophies of nursing come through. Such philosophies included holism in which health is dependent on several related aspects including physical, social and</p>	

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			<p>psychological wellbeing, which 'make the whole person'. Another was choice and decision-making – nurses acknowledge that although information is available and ought to be given, people need to make their own choices. Another was empathy – concern for the health plights of low-income groups. There was acknowledgement that whilst many in society can choose to buy healthy foods and go on holiday, others have no such options. Healthier foods were seen to be more expensive and therefore less accessible. This understanding of others, the ability to be able to partially enter the frame of reference is considered to be the key to better caring and a crucial determinant of the therapeutic relationship.</p> <p>In contrast to role-based accounts, 8 of the nurses sought to explain the role of the individual in health maintenance. Health is presented in a social vacuum, a neutral phenomenon that assumes everyone has equal opportunities; "...it's up to you to look after yourself and eat healthily". Part of this self-care was taking advice from health professionals; failure to take responsibility for health or take professional advice was linked to negative consequences such as illness. By adopting this stance (which the authors claim is entrenched within New Right ideology), constraints imposed by advertising, economic pressures such as housing, demands of the family, employment and income are not acknowledged. This assumes that people can choose between good and poor health practices, and that illness is socially structured and patterned with lower income groups experiencing more ill health than other groups in society.</p>	
<p>Author: Farooqi</p> <p>Study design: Questionnaire evaluation</p> <p>Year: 2001</p> <p>Funding: DH</p> <p>QUALITY -</p>	<p>Number of participants: 23 practices (62 GPs -88% of staff)</p>	<p>Intervention: Community Health Promotion Programme (Project Dil) vs non-Project Dil: South Asian media (e.g. TV; radio; newspapers) Peer education (accredited by the Open College Network) including modules on diabetes, obesity, physical activity, CHD prevention).</p> <p>Research Question: To improve the effectiveness of primary and secondary prevention of heart disease (CHD) in volunteer Leicestershire general practices with a high percentage of S. Asian patients. To increase awareness of lifestyle risk factors amongst the S. Asian community with</p>	<p>Main Themes relevant to research question:</p> <p>50 students (bilingual) recruited for peer education programme, 45 of whom completed the course. Each practice team was invited to participate in 9 hours of PGEA accredited training to address issues relevant to CHD service provision.</p> <p>Whilst knowledge of CHD and risk factors was high pre and post intervention (100%), there was improvement following peer education in the ability to define or describe peer education (54% - 100%) and, method of delivery (63% - 87%), and identification of methods to access funding (79% - 100%).</p> <p>Types of activity carried out by peer educators (54 in total) included: Health fairs / days at community venues (5) Health displays (19) Talks / presentations to community groups on lifestyle risk factors (19) Physical activity sessions and walking groups(10)</p>	

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		<p>means of reducing CHD.</p> <p>Methods used:</p> <ol style="list-style-type: none"> 1. Design and development of a CHD training and awareness programme for health care professionals (including cultural awareness, physical activity, diet and nutrition). 2. Organisational change to ensure adoption of an effective secondary prevention programme for general practice. 3. Public awareness campaign including a peer education programme for the S. Asian community. <p>Interim evaluation is reported.</p>	<p>Secondary prevention training with practice nurses (1)</p> <p>20 general practices completed the training programme (57 GPs, 94 nurses / managers / clerical staff)</p> <p>The authors comment that uptake and attendance in practices was high, and clinical audit has increased, showing significant improvement in quality and standards of care. Equally, there was enthusiasm in the response to general media campaigns as well as the peer education programme.</p> <p>Facilitators:</p> <ul style="list-style-type: none"> • Funding from the DH • Publication of the CHD National Service Programme <p>Recognition and acceptance that activity aimed at addressing ethnic-specific issues should be part of mainstream NHS provision.</p>	
<p>Author: Graham</p> <p>Study design: Postal survey</p> <p>Year: 2005</p> <p>Funding: Not stated</p> <p>Setting: NW England</p> <p>QUALITY +</p>	<p>Number of participants: 71 GPs and practice nurses in the survey; 9 GPs (states 6 male and 4 female) and 2 practice nurses interviewed.</p>	<p>Research Question: To investigate the exercise referral process from the health professional's perspective, specifically in examining perceived barriers to referral, priority given to the scheme in day-to-day consultations, perceived importance of their role in the process and referring practices.</p> <p>Methods used: Postal survey to all GPs (n=144) in 52 practices Interviews to identify how patients selected for referral; key barriers to referral; perceived role; involvement necessary in patient progress through an exercise scheme.</p>	<p>Main Themes relevant to research question:</p> <p>Postal survey: response rate 49% (n=71)</p> <p>Main Themes relevant to research question:</p> <ul style="list-style-type: none"> • Identification methods: Patient asks about exercise During consultation (random) Request to refer by another doctor Asking patients to choose from a few behaviour changes <p><i>"It's not that we don't do it because we are against it, it's just that there is so much else compacted into our seven and a half or 10 minute consultation that we neglect that one because it slips our mind, it's not top of our agenda"</i> (female GP)</p> <ul style="list-style-type: none"> • It was suggested that schemes be advertised so that patients could refer themselves. 	
<p>Author: Hampton</p> <p>Study design: Qualitative evaluation</p>	<p>Number of participants: Pakistani 7 Indian 2 Chinese 2 Underwent formal training</p>	<p>Intervention: Recruitment and training of lay women (>55 years) from Asian and Chinese communities to take specific health messages using appropriate languages,</p>	<p>Main Themes relevant to research question:</p> <ul style="list-style-type: none"> • Initiating process – dialogue with members of the target group so that appropriate links could be made with the target communities. 	

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<p>Year: 2000</p> <p>Funding: HEBS (Health Education Board for Scotland)</p> <p>Locality: Glasgow</p> <p>QUALITY +</p>	<p>to become Community Health Workers (CHW)</p>	<p>back to the target group.</p> <p><u>Training</u> Core programme covering relevant information including healthy eating and T2 diabetes was designed by the project team. CHWs received 20 2 hour sessions over 20 weeks with additional refresher sessions during the implementation phase. Training took the form of workshops, role play and group discussions. Visits were made to well woman clinics.</p> <p>Research Question: Evaluation of the intervention</p> <p>Methods used: Qualitative (multi-method, including observation, focus groups, interviews and the use of networking sheets).</p> <p><u>Evaluation</u> Ran parallel to the programme as it was being developed and assessments carried out before during and after implementation.</p>	<ul style="list-style-type: none"> Members of the project team were aware that the target population relied on younger members of their community to pass on general information, assist with interpretation and provide other support. With this in mind, the team set out to recruit younger women with good communication skills and where possible, community work experience. Flexible approach allowed the work to extend well beyond initial expectations – from ‘known’ community centres or projects to a wide range of settings. Main points of contact where people were reached were local community centres, health information points, a Chinese health gala, diabetes road shows and GP practices. Work usually took the form of presentations with CHWs applying methods learned during the training. Managers in certain settings were at times reluctant or unable to allow CHWs time to conduct health promotion work as scheduled activities took precedence. However over 18 month’s more than 2000 women from target communities were reached. In terms of raising awareness of diabetes within the target populations, 19% of the consenting 76 participants knew nothing at all prior to the sessions, and only 25.6% knew a lot. Following the sessions, 52.6% stated they had learned a few new issues, and 28.9% stated that they had learned quite a lot. The most significant impact was interviewees’ attitudes toward food preparation and views on eating habits. Many participants had altered their diet and methods of food preparation in a number of ways since receiving information on diabetes and healthy eating. 19.7% believed that the sessions had influenced their diet very much. The qualitative data revealed that respondents were especially impressed with the manner in which traditional western healthy eating plans and messages were adapted and delivered during the programme to suit particular cultural backgrounds. The bilingual Asian healthy eating recipe book designed by CHWs proved very popular by allowing participants and CHWs to become part of the process and relate more closely to the messages being delivered. Asian respondents in particular were impressed with the idea of using appropriate languages to deliver health messages: <p><i>“..This was the first time something like this was done in our language</i></p>	

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			<p><i>and I found it very useful and easy to follow...</i></p> <ul style="list-style-type: none"> It was difficult to measure lifestyle change or direct impact of the programmes but the qualitative accounts showed enthusiasm to alter in a positive manner. <p><i>"..after the talk, I learned how to eat healthy..."</i></p> <ul style="list-style-type: none"> A team spirit and collaboration between CHWs, trainers, the project team and evaluators were seen to contribute to the success of the project. Sharing experiences and considering new developments contributed to the systematic monitoring and smooth management of the community work and to the establishment of a trusting partnership between lay and professional members. 	
<p>Author: Kennedy</p> <p>Study design: Semi-structured group interviews</p> <p>Location: England</p> <p>Year: 2008</p> <p>Funding: Not stated</p> <p>QUALITY ++</p>	<p>Number of participants: 29 professionals; 53 LFHWs</p> <p>Speciality: Lay food and health worker (LFHW) are lay people utilised in front line roles.</p> <p><u>Lay health worker definition:</u> Indigenous to the communities being served, carrying out functions related to community-based public health initiatives designed to prevent disease or promote health and wellbeing, with specific focus on food and public health; trained in some way in the context of the intervention; but having no formal professionals or paraprofessional qualification.</p>	<p>Intervention: From an n initial 48, 18 identified projects with a universal goal to promote healthy eating through a range of approaches. Sample taken from 15 of these.</p> <p>QUALITATIVE: Research Question: To explore perceptions and definitions of lay food and health workers (LFHW) helping roles within the context of NHS community nutrition and dietetic services.</p> <p>Methods used: Interpretative qualitative inquiry; SSIs with LFHW and NHS professionals employed by community programmes serving 'hard-to-reach' groups across England.</p> <p>Framework NVivo Software</p>	<p>Main Themes relevant to research question:</p> <p>Four main areas of lay health worker activity:</p> <ol style="list-style-type: none"> Increasing access to health care by bridging the gap between social and cultural groups and formal health services. Reducing health-care costs by encouraging the appropriate use of health care systems Improving the quality of health care by educating providers to the community's health-care needs and enabling patients by fostering self-efficacy Strengthening local economies by linking families to much needed services, mobilizing communities to seek resources to meet their health needs <p>A consensus emerged that the primary role of LFHWs is to promote healthy eating.</p> <p><i>"...the project needed local people who knew the community and the community knew them..."</i></p> <p><i>"We've gone in and done a discussion first around coronary heart disease... talk about what coronary heart disease is and how diet influences that and then ask them what they would like to do as a follow-up to the discussions... Usually that involves some sort of ingredients or changing the recipe or something like that." (Project 03, LFHW)</i></p> <p><i>"Making the practical bit easier is the bit that needs to get across. I think if you ask a lot of people in the general public they'll know the healthy eating messages but knowing them and actually putting them into</i></p>	

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			<p><i>practice is two different things. That's what we are really trying to fill... that practical gap." (Project 03, HP)</i></p> <p>The role of LFHWs was also seen as reinforcing existing healthy eating messages, translating them into more practical or user-friendly advice:</p> <p><i>"They're [LFHW] very practical in the work they do, not giving one-to-one nutritional advice or anything... but thinking more in terms of food and meals, rather than in terms of nutrients and nutrition. Their responsibility is probably also to get people to think about the diet and health link. To give out basic nutritional messages." (Project 03, HP)</i></p> <p><i>"They run take [cook and eat] sessions, that would be the most popular one because it's so practical and everybody enjoys doing that... we have some resources that they use so they bring in the healthy eating message... and try and make it interactive. Other sessions would be labelling, budgeting, supermarket shelves and showing people healthier choices on supermarket shelves... Discussion-wise as well, it's not just a case of 'we will go and do this Cook and Eat'. We try and encourage them to stimulate discussion around a certain ingredient they are using or a dish that they have done in a different (healthier) style or something like that." (Project 03, HP)</i></p> <p><i>"I think our job is more practical isn't it? Giving practical advice on how to manage things, whereas even if the dietitian listens to the client group they might not notice there's a problem with skills and just pick up on the clinical side or the education and information side." (Project 13, LFHW)</i></p> <p><i>"They would have a remit to make sure that people can afford this and what they are saying would be possible changes to their diet... come up with realistic alternatives really... They [LFHW] are both from the area, so they obviously have an idea of what people eat and don't eat and what is available in the local area." (Project 03, HP)</i></p> <p>Identification of groups through outreach:</p> <p><i>"To organise would be one of their biggest roles, making up lists of contacts they can use. Pro-actively contacting people, not waiting for contacts to be made but actually going out and introducing themselves."</i></p> <p><i>"The South Asian groups, they tend to want more discussion around adapting their traditional methods of cooking to make them healthier." (Project 15, HP)</i></p>	

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			<p><i>"We teach them all about nutrition, teach them about shopping; we give them recipes with the ingredients on and things they will need. They can take this home every week so they can practice at home." (Project 11, LFHW)</i></p> <p>The 'Cook and Taste' sessions in particular were discussed in some detail.</p> <p>Key types of activity undertaken by the LFHW relevant to question:</p> <ul style="list-style-type: none"> • Raising awareness of food and related issues • Providing food and health advice • Nutrition education (e.g. Cook and Taste sessions in community centres or schools) • Facilitating access to health services • Providing social support and networks • Community development (needs assessment) • Attending training course <p>Unlike 'busy' professionals, LFHWs were perceived as being more likely and better able to provide practical and culturally relevant advice. Outreach was perceived as an activity that could be performed well, mainly because of the lack of pressures compared to health professionals.</p> <p><i>"To organise would be one of their biggest roles, making up lists of contacts they can use. Pro-actively contacting people, not waiting for contacts to be made but actually going out and introducing themselves."</i> (HP)</p> <p><i>"They are a link between us and the community in a sense..."</i> (HP)</p> <p><i>"They do get to know their clients very, very well...They have got this good rapport with them..."</i> (HP)</p> <p>Even if the LFHWs could not help directly, they usually knew someone in the local area that could.</p> <p><i>In the discussion, the authors suggest: "although it is quite possible that LFHWs can support health professionals in a broader strategic approach, there was insufficient evidence from the data here to support this." (p.221)</i></p>	
Author: Lazenbatt	Number of participants:	Intervention:	Main Themes relevant to research question:	Limitations:

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<p>Study design: Survey</p> <p>Location: Year: 1999; 2000 (Two papers reporting the same study)</p> <p>Funding: DH and social services for Northern Ireland</p> <p>QUALITY +</p>	<p>1) n = 392 (Response rate almost 40%)</p>	<p>Project which assessed the contribution made by nurses, midwives and health visitors to targeting health and social need (THSN) to improve the health of disadvantaged groups.</p> <p>Research Question:</p> <p>Methods used:</p> <ol style="list-style-type: none"> 1) Survey questionnaire to nurses in community and voluntary groups (n=1000) to assess their contribution to THSN 2) Analysis of the 22 interventions to define aspects of 'good practice' 	<p>44% of nurses perceived THSN as the identification of the health needs of groups, while 24% interpreted it as the use of health promotion strategies that focus on personal empowerment and community development. 16% had difficulty defining THSN although 12% thought that they were following Government health strategies and targets. 4% viewed needs assessment as a feature of health promotion activity.</p> <p>Of the interventions, 20% did not prioritise or understand the relationship between health and social need so were eliminated from phase 2. 59% of the total initiatives were judged to use more systematic evaluation techniques and research methods.</p> <p>Limitations to evaluation:</p> <ul style="list-style-type: none"> • Lack of rigorous quantitative research design • Small number of participants and no control groups • Limited description of contents • Limited evidence of Cost Effectiveness • Evaluation often after the event and not clearly related to project aims and objectives • Unrealistically short time scale, often the result of short term funding • Results not always disseminated beyond internal structures <p>Those interventions that had been evaluated in more detail considered processes of development and implementation as well as outputs and outcomes. THSN is complex and multi-faceted, drawing on different theoretical and practical concepts.</p> <p>Only 38 interventions met the criteria of evaluation and dissemination.</p> <p>Barriers / facilitators to nurses working effectively within the initiatives:</p> <ul style="list-style-type: none"> • Accessibility of research based evidence to inform good practice • The view of nurses as secondary workers, particularly when publishing evaluations • Fulfilling all commitments with heavy caseloads – most community initiative work done in evenings and at weekends • Commitment from a few to the degree that they used their own money – need for adequate funding • Working in isolation; lack of communication between projects. • Need for authority and autonomy to empower clients and collaborate with other professionals. • Conflicts that arise through lack of open communication 	<p>RCTs seen as difficult to carry out in this area to a sufficiently rigorous standard (e.g. allocating community members to intervention / control), therefore difficult to assess effectiveness.</p>

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			<ul style="list-style-type: none"> Gulf in terms of experience between those that commission the projects and those that work in the field. <p>Views: "To maximise the health needs of an area, a deep understanding and respect for cultural and religious beliefs is essential". (Health Visitor)</p> <p>Use of Community Action Model which aims to mobilise disadvantaged communities. Nurses in this model would empower people to make choices about adopting healthier lifestyles, increase access to services and alleviate structural factors underlying health and social problems.</p>	
<p>Author: Pope</p> <p>Study design: Evaluation by survey</p> <p>Location: UK</p> <p>Year: 1995</p> <p>Funding: Health Education Authority</p> <p>QUALITY -</p>	<p>Number of participants: 380 from 727 questionnaires (52% response rate).</p> <p>70% involved in the award at the time of report; rest had been involved in the past.</p> <p>44% had been involved for > 3 years. Range 2 months – 6 years.</p> <p>Total of 2774 awards had been made, with the highest number to workplace canteens and restaurants.</p> <p>Wide range of establishments received awards, including a prison, an offshore gas platform and a food establishment in a lay-by.</p>	<p>Intervention: Heartbeat Award for caterers.</p> <p>Launched 1990, involves caterers receiving an award for meeting certain criteria which included the provision of at least one third of the menu with healthy food choices, at least one third seating as designated no smoking, and one third of the catering staff receiving food hygiene training.</p> <p>Originally managed at a national level, responsibility transferred to local level in 1992 following National Audit Office report and consultation. Rationale for transfer was to integrate health promotion into existing local activity.</p> <p>Based on 'Look After Your Heart', the national coronary heart disease programme for England, launched in April 1987.</p> <p>Research Question: To provide an assessment of the Award scheme following transfer to local management.</p> <p>Methods used: Postal questionnaires to every chief</p>	<p>Main Themes relevant to research question:</p> <p>There is little evidence concerning the effectiveness of the project itself, though there is evidence of a shift toward healthier lifestyles over recent years.</p> <p>Most respondents regarded their CHD prevention work as being relevant to the population as a whole, but specific groups were targeted, especially 25-40 yrs, low SES and BME groups.</p> <p>Virtually all respondents stated that the formation of a healthy alliance was key to the prevention strategy.</p> <p>Most of those involved felt that aims and objectives were being met.</p> <p>Most common barriers:</p> <ul style="list-style-type: none"> Lack of resources, time, money Difficulties changing traditional shopping and eating patterns among the public Lack of commitment from management Lack of support at local level <p>Advantages:</p> <ul style="list-style-type: none"> Feeling of 'ownership' Opportunities to meet the needs of local tradesmen and customers Enthusiasm and commitment of senior management Integration of national and local initiatives <p>Less than 40% of schemes were being evaluated; of these, 25% had databases to support the project; inspection and re-inspection was the</p>	

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		<p>environmental health officer, health promotion officer and dietitian in England.</p>	<p>main form of evaluation. There was a move toward better evaluation.</p> <p>Just over 50% viewed the scheme as successful in promoting lifestyle change – though no evidence was available to support this view. Only a small number considered that the Award was effective at reaching 'hard-to-reach groups'. In particular, it was a frequent comment that low-income groups tend not to go to restaurants.</p> <p><i>"The poor do not eat out frequently, and when they do, they do not wish to impose dietary restrictions on themselves."</i></p> <p>There was unanimous agreement that caterer's involvement in health promotion was important. 75% thought it facilitated collaboration between health professionals and caterers.</p> <p><i>"..the value of an award scheme like the Heartbeat Award is that an awareness of the health issues can be presented in a positive way which will encourage food handlers to provide good, healthy food...."</i> (senior environmental officer).</p> <p>A need was also identified for more health promotion information to be made available to caterers in appropriate languages (for minority groups) and the suggestion made to set up a national database for caterers to share examples of good practice.</p> <p>Work within schools and the workplace was highlighted as an effective means of targeting large numbers of individuals from a wide range of backgrounds with minimal resources.</p>	
<p>Author: Rankin</p> <p>Study design: Evaluation</p> <p>Location: Scotland</p> <p>Year: 2006</p> <p>Funding: Projects – BLF (Big Lottery funding)</p> <p>QUALITY</p>	<p>Number of participants: 6 sites, variation in urbanity.</p> <p>Mean Age: Not reported</p>	<p>Intervention: HLC (Healthy Living Centre) food project.</p> <p>Aims: To enhance skills To promote social inclusion To influence food accessibility</p> <p>Research Question: To improve the understanding of the implementation of health-focused ABIs (Area-based Initiatives) in order to contribute to learning and to inform best practice.</p>	<p>Main Themes relevant to research question:</p> <ol style="list-style-type: none"> 1. Using food as a tool to promote social inclusion: Expectation that HLCs work with people or groups that are socially excluded or at the risk of becoming so. The relationship is that people on lower incomes often have to pay more while having limited access to a poorer quality range of foods. 2. Influencing the accessibility of quality food choices Target users often have limited access to a range of shops and 'healthy foods' can be expensive. Services seek to improve food retailing and provision options through developing "...food activities that impact on 	

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+		<p>Methods used: Interviews (single and group) with project managers, project workers, partners, volunteers, service users. Observation of activities, services, meetings and daily interactions. Telephone contact with key contacts to maintain recording of developments.</p>	<p>peoples poverty...” and occasionally, through targeting local retailing structures. In terms of individuals, services seek to enhance access by bringing together “...healthy food and affordable costs in an accessible way...”</p> <p><u>Barriers:</u></p> <p>Negative associations drawn by local people between work of HLC and government ‘healthy living’ campaign (unwanted interference in private life). Confusion over names of some HLCs, especially those using ‘healthy living’ in title.</p> <p>3. Using food as a method to enhance knowledge and develop skills</p> <p>Food used to provide education about how to source food and prepare a healthy meal, and on topics such as obesity and nutrition. Food is used to train users in food hygiene and food handling techniques. Courses run to instruct on buying affordable healthy foods and provide recipes and directions to other sources of information. It was hoped that messages would be taken home and passed on to family members. Skills had enabled several users to gain employment and further training.</p>	