

Enhancing delivery of health behaviour change interventions in primary care: a meta-synthesis of views and experiences of primary care nurses

Corresponding author:

C A Taylor

Applied Research Centre – Health and Lifestyle Interventions

Coventry University

Whitefriars Building

Priory Street

Coventry CV1 5FB

02476 887171

aa5992@coventry.ac.uk

Dr. Rachel L Shaw

Aston University

Professor Jeremy Dale

University of Warwick

Professor David P French

Coventry University

ABSTRACT

Objective

To systematically find and synthesise qualitative studies that elicited views and experiences of nurses involved in the delivery of health behaviour change (HBC) interventions in primary care, with a focus on how this can inform enhanced delivery and adherence to a structured approach for HBC interventions.

Methods

Systematic search of five electronic databases and additional strategies to maximise identification of studies, appraisal of studies and use of meta-synthesis to develop an inductive and interpretative form of knowledge synthesis.

Results

Nine studies met the inclusion criteria. Synthesis resulted in the development of four inter-linking themes; a) actively engaging nurses in the process of delivering HBC interventions b) clarifying roles and responsibilities of those involved, c) engaging practice colleagues, d) communication of aims and potential outcomes of the intervention.

Conclusion

The synthesis of qualitative evidence resulted in the development of a conceptual framework that remained true to the findings of primary studies. This framework describes factors that should be actively promoted to enhance delivery of and adherence to HBC interventions by nurses working in primary care.

Practice Implications

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The findings can be used to inform strategies for researchers, policymakers and healthcare providers to enhance fidelity and support delivery of HBC interventions.

Key words:

Meta-synthesis; Qualitative research; Nurses; Primary health care; Health behaviour; Intervention; fidelity.

1. Introduction

Behaviours related to health, especially smoking, diet and physical activity are central to public health [1,2]. The use of health care services to support health behaviour change (HBC) activities should be optimised [3]. Treatment fidelity describes the extent to which HBC interventions are delivered as planned; whether they remain true to the theoretical frameworks from which they were developed, or to manuals or similar resources specifying intervention techniques. If interventions are not delivered as intended then it is difficult to determine whether outcomes can be attributed to the intervention itself [4-6]. As a result effective interventions may be discarded and ineffective interventions may be adopted. Lack of attention to fidelity may also result in studies that cannot be adequately replicated across different research contexts or from research to practice [6]. This clearly has implications for the development of evidence based practice, the importance of which has gained momentum in recent years [3].

Methods for enhancing treatment fidelity in HBC interventions have received greater attention in the last few years, due at least partly to the publication of the work in the United States of the National Institutes of Health Behavior Change Consortium (NIH-BCC) Treatment Fidelity Workgroup [6]. Primary care has been identified as a key setting for delivery of HBC interventions due to the opportunities available for undertaking HBC as part of routine care or to support the management of chronic diseases [3,7,8]. In many countries, HBC interventions are increasingly being delivered by primary care nurses, as part of their developing role in the management of long term conditions and helping people lead healthier lives. This trend is particularly evident in UK health policy [7,8]. Even so, there is little known about which strategies are most appropriate to

enhance fidelity of delivery to a structured approach by nurses in primary care, despite this being the setting in which advice is commonly provided about HBC.

A number of qualitative studies have explored the views and experiences of nurses who have delivered HBC interventions in primary care [9-18]. The synthesis of such studies can develop understanding of factors that could enhance delivery of and adherence to such interventions.

Hence, the aims of the current study are to systematically find and synthesise qualitative studies that elicited the views and experiences of nurses involved in the delivery of HBC interventions in primary care, with a focus on how this can enhance delivery and adherence to structured HBC interventions.

2. Methods

The review comprised three elements.

2.1 Systematic identification of literature

A systematic search of electronic databases was undertaken using CINAHL, MEDLINE, PsycINFO, ASSIA and SCOPUS from date of inception to June 2009, using keywords and subject (thesaurus) headings [19].

Duplicate references were deleted and all references were then screened according to the inclusion criteria. Initial assessment was undertaken by the first author and then discussed with the wider review team where it was not clear whether the paper should be included.

To maximise identification of studies, reference lists were searched manually, forward citation searches undertaken and authors contacted. All additional references obtained were screened according to inclusion criteria. (See figure 1)

2.2 Inclusion criteria

Studies using qualitative methods to elicit nurses' views and experiences of delivering HBC interventions, aiming to facilitate adoption of physical activity and/or healthy eating by adult patients (aged 16-65 years) within primary care. Studies were included if they utilised qualitative methods for the collection and analysis of data. This included qualitative studies as components of wider trials.

2.3 Critical Appraisal of Studies

Studies were appraised using the Critical Appraisal Skills Programme (CASP) Tool for qualitative research [20]. The CASP tool considers three broad issues concerning rigour, credibility and relevance, operationalised through ten questions regarding research design, recruitment strategy, data collection, researcher and participant relationship, ethical issues, data analysis, findings and value of the research. Appraisal of included studies was undertaken independently by the first two authors and agreement reached during a meeting by these authors and a third member of the research team [21,22].

2.4 Synthesis

Studies were synthesised using meta-synthesis, a form of synthesis for interpretative studies [23]. This was informed by the techniques of meta-ethnography [24-26]. It involved the translation of study findings into one another, through the transfer of first, second and third order themes across different studies [25-26]. In this way, an inductive and interpretative form of knowledge synthesis was undertaken.

3. Results

3.1 Systematic identification of literature

The search of electronic databases yielded 882 unique references. Nine studies were included in the synthesis [9-18]. (See figure 1)

Figure 1 here.

3.2 Critical Appraisal of Studies

All nine studies were deemed to be of good quality in relation to the appropriateness of the research design, recruitment, researcher-participant relationship and ethical considerations. However, there was variation in the quality of studies concerning sufficient description of the data collection and analysis process and limited primary data to substantiate authors' conclusions. Papers judged to be high quality were given greater "weight" when synthesising [21,22]. This involved only including particular findings from studies where there was insufficient primary data presented, where these findings substantiated what the better quality papers reported.

3.3 Characteristics of included studies

Key contextual data and characteristics of each study were extracted. The interventions were delivered as part of primary prevention programmes for patients at risk of cardiovascular disease or as part of secondary prevention interventions for patients with type II diabetes, obesity or established heart disease. All included studies were of nurses' views and experiences of delivering HBC interventions within primary care. In some of the studies, although the nurse delivered the intervention, the views of a practice GP was also elicited to explore their perceptions of the nurse-led intervention and its implementation within the primary care practice. (See table 1)

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Table 1 here.

Interventions utilised a structured approach to guide delivery. This included the use of resources including a protocol, manual, consultation template, intervention programme/guideline, agenda setting chart, patient empowerment counselling model, patient consultation protocol/checklist and patient information booklet. Other mechanisms used to support and encourage delivery of the intervention included documentation of the content of consultations by the nurse.

All studies supported delivery of the intervention through training and/or supervision that was undertaken by the nurses prior to, or during delivery of the intervention. Assessing adherence to the structured approach was undertaken in some of the studies. This included assessments of audio-recorded consultations and review of nurse completed pro-forma's.

3.4 Synthesis - First and second order themes

The identification of first order themes involved extracting all data from the primary studies that were relevant to addressing the study aim. Development of second order themes involved an iterative process where data from each study were re-grouped and clustered. This process is illustrated in table 2. (A table summarising the first and second order themes is available from the corresponding author on request).

Table 2 here.

The second order themes developed were: procedures for the intervention/study; preparation for delivery of the intervention; delivery of the intervention; nurse role/responsibility; patient role/responsibility; external factors impacting on primary care practices; infrastructure of individual primary care practices; and direct and indirect outcomes of the intervention.

3.5 Synthesis - Third order themes

The accounts in the primary studies were essentially reciprocal which enabled a process of translation of each account into another to form the third order themes. The second order themes were used as "building blocks" [26] to develop interpretations that may not have been explicit in the primary studies. Throughout this interpretative phase, the grid of first and second order themes was used extensively to ensure interpretations remained rooted in the primary data.

Through this process, four third order themes were developed: a) engagement of nurses; b) clarification of roles and responsibilities; c) engagement of the primary care practices; and d) communication of aims and outcomes. Quotes presented below are from study authors, unless stated otherwise.

3.5.1 Engagement of nurses

Two groups of factors were described as leading to increased engagement by nurses; (i) those that nurses value and are rewarded by and, (ii) those that nurses need and/or want to be in place to support them.

(i) Nurses value the process of engaging with patients when delivering interventions, which includes provision of support and reassurance for patients and equipping patients with skills to take

more responsibility for themselves. Nurses also describe valuing increased potential for improved health outcomes that can be experienced by patients.

'Nurses were particularly positive about increased time with patients, permitting enhanced relationships with resultant benefits for both patients and professionals...this development of skills and the enhanced level of continuity were clearly perceived as positive factors.' [14, p. 525]

Nurses reported that they were rewarded by the enhancement of knowledge and skills to support the development of the nursing role within primary care.

'It is rewarding that patients are actually looking to us for support and we can offer it because we have had the training.' [Nurse in 13, p. 466]

(ii) Training was reported in the studies to be essential to equip nurses with the necessary skills and knowledge to establish and deliver interventions. On-going training and support was reported as important to maintain or increase nurses' skills, confidence and engagement and their ability to deliver the intervention as intended.

'The trial facilitators reported that the facilitator training met their needs, and they felt confident on completion. They acknowledged that they had difficulty in recalling theory surrounding unfamiliar elements of care delivery, such as telephone support calls or consultation techniques, once they were back in the practice situation.' [16, p. 380]

Nurses emphasised that a key component of training should be developing and practising skills for exploring patient concerns/issues, as these are areas reported to be challenging, particularly when time is limited and if the approach is new for the nurses.

'Staff criticized the behaviour change training for being too theoretical and not giving enough emphasis to the practicalities of implementing it.' [10, p. 7]

Skills acquisition may be enhanced if training consolidates or develops existing skills, or develops transferable skills for use with other patients.

'These developing skills were found to be useful for people with other chronic conditions, and they [nurses] were positive about the value and feasibility of the programme for use in primary care.' [17, p. 729]

A structured approach such as a protocol or manual can support nurses to deliver interventions. Difficulties in programme implementation in one study actually resulted in the development of a guideline to support delivery of the intervention by nurses.

'The guideline described the procedural steps of the intervention's performance. It was written as a sequential procedure...stated how and which...actions should be performed... the guideline stated the elements of the prevention programme.'
[12, p. 5]

3.5.2 Clarification of roles and responsibilities

The developing role of nurses concerning delivery of HBC interventions within primary care involves a changing dynamic in the roles, relationships and responsibilities of nurses, GPs and patients. Where GPs are handing over more responsibility to nurses, nurses value their developing role, but need the continued support of GPs.

'Having the confidence to check things out with the practice GPs and having good working relationships with them were very important.' [18, p. 186]

At the heart of most HBC interventions is a patient centred approach, where the role of the nurse is facilitative, empowering or supportive, [27] and not that of an “expert”.

'The role had changed from being the expert who gave advice and recommendations to becoming a facilitator who considered the patients' needs. The physicians and nurses felt secure in the role of the expert and felt they knew what was best for the patients.' [9, p. 322]

The patient centred approach was relatively new to many nurses, and as a result may prove to be difficult to maintain once back in the everyday practice situation. This emphasises the importance of providing on-going support to maintain skills and support nurses' developing roles.

'The physicians and nurses felt it was easy to fall back into the traditional approach...where they gave advice and recommendations... Old or new, the physicians and nurses still needed more training before they could say that they really mastered the empowerment approach.' [9, p. 321]

The maintenance of skills is important as nurses may face challenges with implementing new approaches concerning HBC, which in turn may impact on their ability to deliver interventions as intended. Challenges can include limited opportunities for development of new skills; working with challenging patients or patients whose existing conditions are poorly managed; lack of experience of using a structured approach to HBC or because of time pressures.

'The structure of the assessment protocol and limitations of time may have also been important factors in the way patients' understanding of their condition, medication and prevention were explored. However...this may have resulted from a lack of skills or ability to undertake this task, or a lack of confidence or knowledge about the particular issues they [nurses] were asked to explore with patients...it may have been that they feared that exploring patients' understandings in these areas might result in issues being raised to which they would not be able to provide adequate responses.'

[18, p. 183]

Studies explored the challenges that may be faced concerning HBC and management of chronic conditions. HBC interventions usually adopt a patient centred approach where responsibility for making behavioural changes shifts to the patient. However studies reported the challenges faced by nurses in passing over responsibility for HBC where this may impact on the management of chronic diseases, for which the nurse may assume responsibility. This is particularly challenging in cases where control of chronic diseases was poor.

'There is a danger of passing the whole responsibility to the person with diabetes along with the Diabetes Manual resources, and there may be some need to assess a person's readiness for this.' [16, p. 378]

The patient centred approach can also pose challenges for patients, who may not, for a variety of reasons take an active role in changing their health behaviours. Studies reported that patients who were engaged in the process of HBC motivated the nurses. The reverse was also found to be true; patients who did not try to change their behaviours or did not attend appointments resulted in nurses questioning their efforts to support HBC.

3.5.3 Engagement of primary care practices

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The primary care practice has a direct influence on the nurse, both when setting up and delivering interventions and so the active engagement of the practice is important.

'Before such a project is even organised it takes a lot of time deliberating and coming to agreements with your colleagues assigned to participate in this project on how the project should and could be organised internally.' [Nurse in 12, p. 4]

Delivery of HBC interventions may be enhanced by nurses who have the support of, and have actively engaged practice colleagues with the intervention.

'It is important to share this with the whole family practice, this way of working. Firstly to learn the empowerment approach, because it is possible to use the approach with patients with other diseases than diabetes and also to get a better understanding of what we are doing.' [Nurse in 9, p.321]

Time constraints may adversely influence the feasibility of interventions which necessitate a patient centred approach requiring time for nurses to engage with patients.

'I don't think I have had the opportunity to use it in perhaps the way it was meant to be because of the time limitation.' [Nurse in 15, p. 1497]

'time must be taken from other parts of their schedule which required understanding from the other providers at the family practices.' [9, p. 322]

Such understanding may be facilitated by primary care practices if interventions are evaluated as having positive health outcomes for patients or other positive process or outcome benefits such as

training for staff. This may be particularly important in the absence of financial incentives for active participation in delivering interventions.

'Several GPs and nurses viewed establishing clinics as a 'team building' exercise...implementing and running clinics motivated and educated the practice team.'

[14, p. 526]

3.5.4 Communication of aims and outcomes

The communication of aims and anticipated outcomes of HBC interventions can engage nurses and practices prior to, during and after the process of delivering the intervention. Several benefits of participating in HBC interventions were described in the studies, such as enhancing the skills of patients to improve their health behaviours; enhancing the skills of nurses; supporting development of the nurses' role or opportunities for improving practice organisational systems. Communicating such benefits or potential process outcomes may then be a useful way in which to engage nurses and practices which can in turn enhance delivery.

'Nurses reported that delivering the intervention had positively impacted on their job satisfaction, as they felt confident to help people to self-care.' (17, p. 728]

'Opportunity to update patients' records with a summary of diagnoses, tests, investigations and medication.' [18, p. 184]

Unrealistic expectations can result in disappointment if such outcomes are not realised, which may affect the process of delivery of interventions by nurses.

'Clinicians' expectations of weight management outcomes are often over ambitious; this frequently leads to disappointment in terms of what is achievable, affordable or medically valuable.' [11, p. i84]

4. Discussion and conclusion

4.1 Discussion

The synthesis resulted in the development of four inter-linking third order themes that were not explicit in all the primary studies, suggesting factors that need to be actively considered in order to support delivery of HBC interventions by primary care nurses. These are a) engagement of nurses; b) clarification of roles and responsibilities; c) engagement of the primary care practices; and d) communication of aims and outcomes.

In line with previous reviews, searching for qualitative studies was challenging. For the continued development and acceptance of syntheses of qualitative studies, a greater investment in indexing qualitative studies in electronic databases is needed [19,22,28].

As seven of the nine included studies were undertaken in the United Kingdom, the extent to which the themes are applicable beyond this context is unclear. For example, one of the included studies [10] took place in Ireland and showed that the two different healthcare systems (in Northern Ireland and the Republic of Ireland) did impact on delivery of the intervention.

The aim of appraisal was to support the development of the synthesis and to increase the degree of confidence in the results. Although there was some variation in quality of studies, the worth of studies was established during the process of synthesis [20,22,24,28]; had we excluded studies following appraisal, we may have limited the insights obtained.

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The treatment fidelity recommendations proposed by experts such as the NIH-BCC [6] do not detail treatment fidelity strategies that are context or provider specific, yet this review points to both the context and providers as being highly influential determinants of delivery of interventions. The extent of inter-linking between the third order themes in the current review demonstrates the complexity of issues impacting on primary care nurses as they deliver interventions to patients. In order to support delivery of interventions for HBC there are a number of strategies that researchers, healthcare providers and/or policymakers can implement, focussed on nurses, the primary care practice and at a national/policy level.

Nurses are frequently the co-ordinating axis of interventions and so their engagement is vital. Nurses value and are rewarded by the benefits experienced by the patients they work with and also the development of the nursing role. Skill development through participation in training and actual delivery of interventions can increase confidence and job satisfaction, particularly where skills developed for a specific intervention can be utilised with other patients. Nurses value the use of a structured approach to support them with delivery, but they may need support in adapting to this approach to patient care. Such support concerns both delivery of the HBC intervention and pragmatic issues i.e. setting up and establishing the intervention within the primary care practice. In order to engage them in delivering interventions nurses should be appropriately trained and supported, before and during delivery. This will include practising delivery of the intervention according to both the components of the structured approach and time assigned within the practice. Enhancing delivery of such interventions could be achieved through engaging or consulting nurses and, where appropriate the wider practice team in the development of the intervention and the training they would require to deliver it [29].

The issue of roles, relationships and responsibilities of healthcare providers and patients has been found to be a significant determinant of the extent of adherence to guidelines [30]. The findings of

the current review suggest that enhancing delivery and adherence to HBC interventions by nurses could be enhanced through the clarification of, and support for the developing roles and responsibilities of all those involved in the intervention. This is particularly important as HBC interventions in many cases adopt a patient centred approach [27] which may involve a shift in the roles of provider and patient. With this approach, providers do not assume responsibility for the behaviour change even though they are delivering the HBC intervention. Instead they actively engage the patient in identifying issues of relevance for them and taking responsibility for changing their health behaviours. Patients should be advised that involvement in a HBC intervention will necessitate their active contribution and commitment to the process.

The primary care practice has a direct influence on nurses delivering interventions and so its active engagement is crucial. Engagement of primary care practices may be enhanced if the aims and likely outcomes of interventions are more effectively communicated by research teams and/or policymakers/managers. This can support nurses and enhance ownership of the intervention by the practice. In order to engage both providers and the wider primary care practice in the delivery of HBC interventions, they need to be convinced that interventions work. However it is equally important that realistic expectations of the outcomes of interventions are communicated [11]. Communicating outcomes as a means of enhancing treatment fidelity has been documented in intervention research in school settings and in learning disability research. Interventions perceived to be more effective may be implemented with greater fidelity than those seen to be less effective [4,31]. Indirect benefits such as the development of transferable skills by nurses for use with other patients, or developing practice systems such as opportunities for updating patients' records can also support practice engagement. These benefits may be experienced by patients, nurses or at a wider practice level during the intervention and can also serve to support involvement of primary care practices in future studies. Previous studies suggest that engagement of an organisation does not automatically predict engagement of the provider of the intervention [32]. This emphasises the importance of engaging both the provider and the organisation in which they are working.

At a national/policy level, the delivery of HBC interventions in primary care could be further supported through the increased integration of HBC as part of primary or secondary prevention strategies. This can be demonstrated through the integration of smoking cessation services within primary care and the resultant health benefits this has achieved [33]. Smoking cessation services within primary care are provided through a comprehensive structure involving training, support, financial reimbursement and resources. The provision of many of these were identified in the current review as factors that could contribute to engaging nurses and the wider practice team and thus enhance delivery of interventions as intended. For the delivery of public health interventions, which frequently involves HBC, 'despite the committed efforts of [the public health workforce], there are systematic barriers to the successful delivery of a “fully engaged” scenario' [3]. Developing the evidence base concerning which physical activity and healthy eating interventions demonstrate the greatest potential for effectiveness may result in national policy actively supporting the delivery of such HBC interventions in primary care.

The current systematic review and meta-synthesis increases knowledge around what factors can support delivery of interventions by a significant group of the public health workforce; nurses working within primary care. It is evident that the factors that influence nurses' delivery of interventions are complex. Figure 2 outlines factors that can be considered in order to enhance delivery of HBC interventions, based on the findings of this review. These findings are in accordance with evidence from the study of treatment fidelity in education settings [4,29] which show that delivery of interventions is highly influenced by context.

Figure 2 here.

4.2 Conclusion

The findings of the current review suggest that in order to optimise the successful delivery of HBC interventions by nurses in primary care, mechanisms need to be actively developed to support engagement of nurses and primary care practices, clarify roles and responsibilities and effectively communicate aims and outcomes. These factors necessitate detailed consideration and a commitment to the development of appropriate strategies to support delivery of HBC interventions in primary care.

4.3 Practice Implications

The study builds on the general strategies of the NIH-BCC, to enhance treatment fidelity by being specific to nurses working in primary care. These findings can be used to inform strategies for researchers and policymakers or other healthcare providers to support delivery of behaviour change interventions in primary care.

In order to further develop understanding of factors that can support adherence to a structured approach for HBC interventions, more primary studies with a specific focus on adherence are needed. Future qualitative studies could specifically explore and report the experiences of primary care nurses on adhering to structured approaches for HBC interventions. Exploration of the views of nurses on their developing roles in HBC interventions could also provide insight into the impact this has on adherence. This also merits further study according to context as the role and autonomy of nurses may differ within different healthcare systems.

Fidelity of delivery of interventions is an important factor in increasing the internal validity of behavioural interventions [6]. Future studies should also aim to quantify treatment fidelity in HBC research and how this impacts on study outcomes [5]. This will allow further studies to strengthen the evidence base that increased fidelity leads to better outcomes in health behaviour change research [6]. Combining qualitative and quantitative studies could provide a greater understanding concerning treatment fidelity in behavioural change studies [28,34].

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Figure 1: Flow chart outlining the number of articles retrieved, and included or excluded at each stage of the review process.

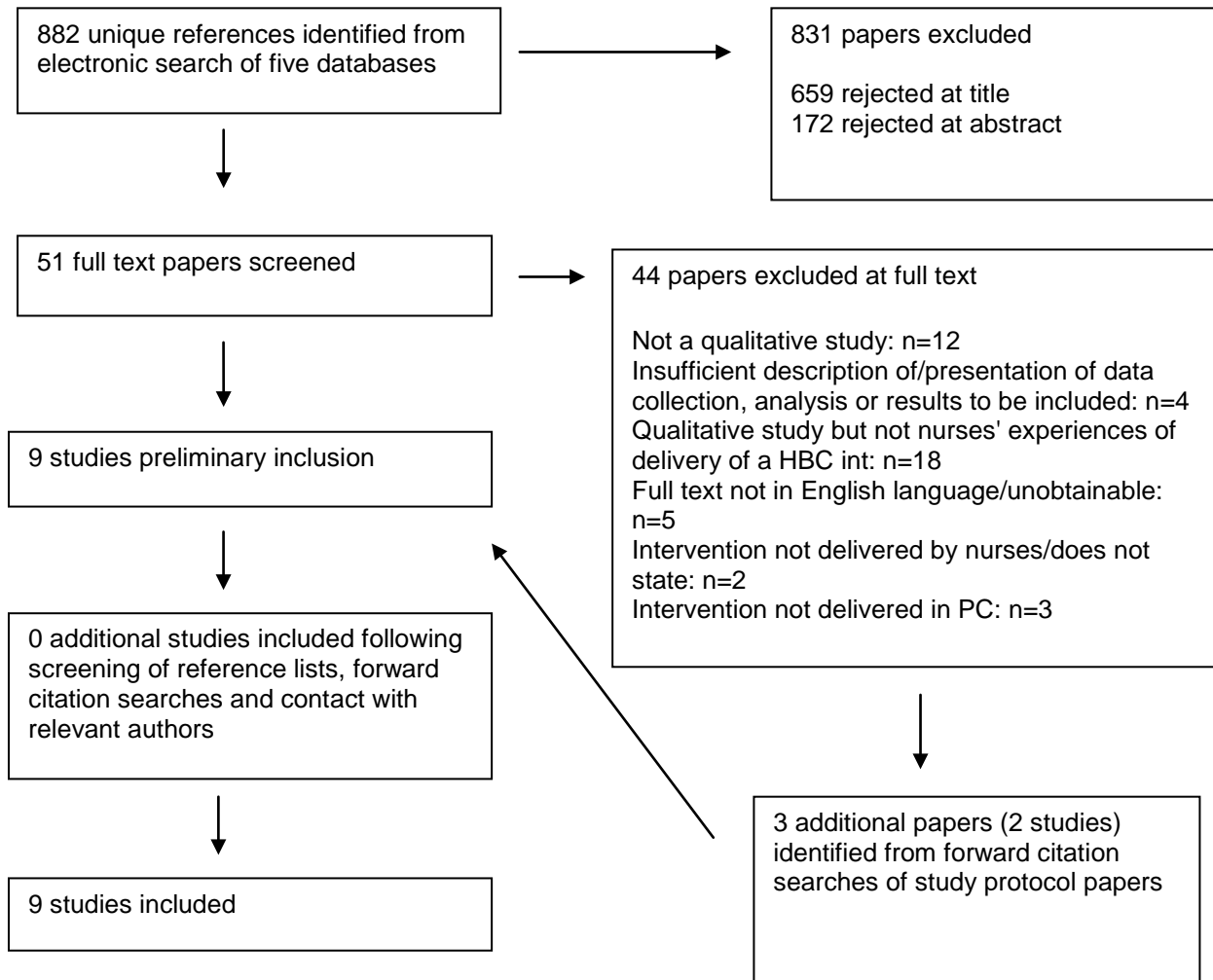
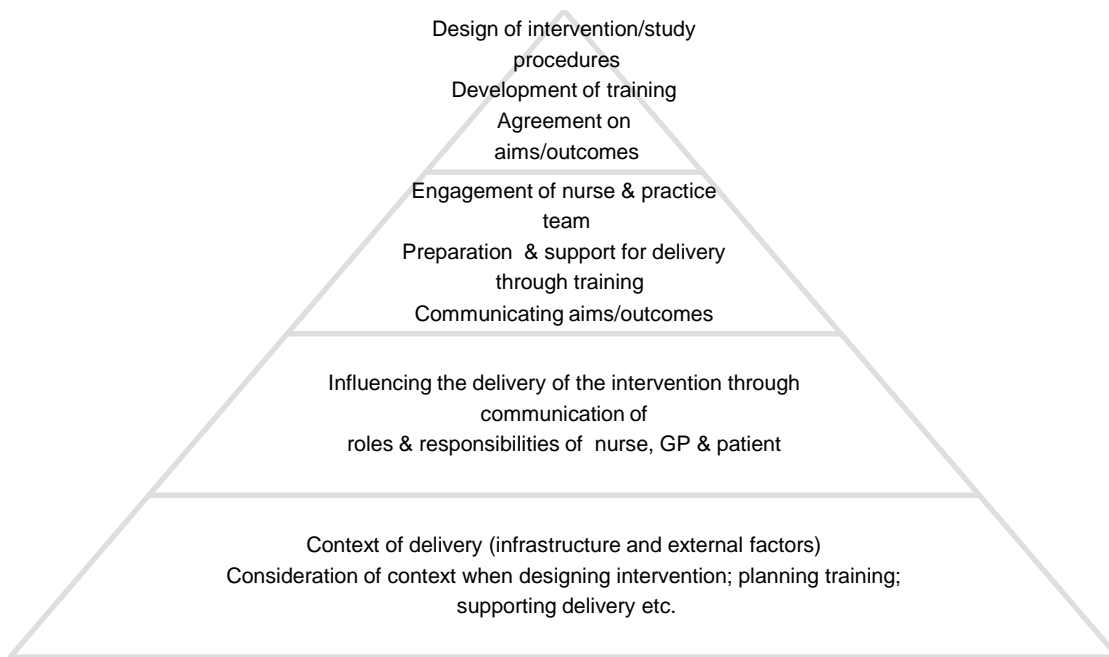


Figure 2: Recommendations for development of strategies to support delivery of health behaviour change interventions by nurses in primary care.



The largest section of the triangle denotes macro factors such as the context which may exert the largest influence on providers delivering interventions but may also be the most difficult to change. The smaller areas of the triangle are where the greatest level of support may be developed to support design, training and delivery of interventions, but are the areas that may have less influence on actual delivery of the intervention.

Table 1: Summary of characteristics of included studies.

Included study	Overview of study	Country	Participants involved in delivery of HBC intervention	Behaviour/s targeted	Participants involved in qualitative study (including methods for data collection/ analysis)
Adolfsson, Eva Thors et al [9]	Secondary prevention of Type II diabetes	Sweden	Nurses n=11 Physicians n=5	Various health behaviours for, i.e. weight loss	Focus groups, nurses n=11, Physicians n=5. Constant comparative method
Corrigan, Mairead et al [10]	Secondary prevention of Coronary Heart Disease (CHD)	Ireland	Practice Nurses (PNs) n=4 General Practitioners (GPs) n=4	Diet; Exercise; Smoking	Interviews, PNs n=3, GPs n=4, Practice Managers n=3. ^a Thematic analysis
Counter-weight Project Team [11]	Weight management programme for obese/ overweight patients	United Kingdom	PNs in 65 practices	Physical activity; Healthy eating	Interviews, PNs, n=15, GPs n=7. ^{a,b} Analysis involved identifying/ coding key themes/issues
Jansen, Yvonne JFM et al [12]	Prevention of Cardio-Vascular Disease in high-risk patients	Netherlands	PNs n=7	Diet; Smoking; Lifestyle changes	Interviews, PNs n=5. ^b Thematic analysis
Macintosh, Mike J et al [13]	Secondary prevention of CHD	England	PNs in 11 intervention practices	Diet; Exercise; Smoking	Interviews, PNs n=14, GPs n=4 (int. & control practices). Constant comparison analysis
Murchie, Peter et al [14]	Secondary prevention of CHD	Scotland	Nurses n=17	Exercise; Diet; Smoking	Interviews, nurses n=17, GPs n=19. Thematic analysis
Pill, Roisin et al [15]	Secondary prevention of Type II diabetes	Wales	PNs n=18	Various health behaviours including physical activity; healthy eating	Documented discussions between research nurse and PNs n=18, group meetings, telephone debrief, PNs n=17.
Sturt, Jackie et al [16/17]	Secondary prevention of Type II diabetes	England	PNs n=23	Exercise; Nutrition; Smoking	Focus group, PNs n=11. Thematic analysis
Wright, Lucy et al [18]	Secondary prevention of Ischaemic Heart Disease	England	PNs n=7	Exercise; Diet; Smoking	Group Interview, PNs n=7. ^a Thematic analysis

a Additionally, the views of patients were also obtained.

b Additionally, views of other members of the project/programme team were obtained.

Table 2: An example of the development of the first and second order themes (shown in the table as ‘Preparation’ and ‘Delivery’) for two of the included studies.

First order themes		Developing
Corrigan, M et al, 2006 [10]	Jansen, YJFM et al, 2007 [12]	second order themes
'Staff criticised the behaviour change training for being too theoretical and not giving enough emphasis to the practicalities of implementing it' (p. 7).	<i>'It is assumed that PNs can apply the knowledge they learned during their education in an instant, organisational skills that is. Before such a project is even organised it takes a lot of time deliberating and coming to agreements with your colleagues assigned to participate in this project on how the project should and could be organised internally' (Nurse, p. 4)</i>	Preparation for delivery of intervention
'Some staff used the booklet in consultations as a prompt to remind them of relevant issues but others felt that it obstructed the flow of individual consultations' (p. 8)	'As the guideline provided gave the practice nurses the position to negotiate appropriate treatments with the GPs, it provided them with a more crucial role in organising this prevention programme' (p. 6).	Delivery of intervention