Experiences of general practitioners and practice nurses of training courses in evidence-based health care: a qualitative study

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SUMMARY

Background. *Clinical governance will require general practitioners (GPs) and practice nurses (PNs) to become competent in finding, appraising, and implementing research evidence — the skills of evidence-based health care (EBHC).*

Aim. *To report the experiences of GPs and PNs in training in this area.*

Method. *We held 30 in-depth, semi-structured interviews throughout North Thames region with three groups of informants: primary care practitioners recruited from the mailing lists of established EBHC courses; organizers and teachers on these courses; and educational advisers from Royal Colleges, universities, and postgraduate departments. Detailed qualitative analysis was undertaken to identify themes from each of these interview groups.*

Results. *At the time of the fieldwork for this study (late 1997), remarkably few GPs or PNs had attended any formal EBHC courses in our region. Perceived barriers to attendance on courses included inconsistency in marketing terminology, cultural issues (e.g. EBHC being perceived as one aspect of rapid and unwanted change in the workplace), lack of confidence in the subject matter (especially mathematics and statistics), lack of time, and practical and financial constraints. Our interviews suggested, however, that the principles and philosophy of EBHC are beginning to permeate traditional lecture-based continuing medical education courses, and consultant colleagues increasingly seek to make their advice 'evidence based'.*

Conclusion. *We offer some preliminary recommendations for the organizers of EBHC courses for primary care. These include offering a range of flexible training, being explicit about course content, recognizing differences in professional culture between primary and secondary care and between doctors and nurses, and addressing issues of funding and accreditation at national level. Introducing EBHC through traditional topic-based postgraduate teaching programmes may be more acceptable and more effective than providing dedicated courses in its theoretical principles.*

Keywords: evidence-based medicine; general practitioners; practice nurses; training; education.

Introduction

CLINICAL governance, in which the care provided for patients is planned, structured, and based on the best available research evidence, is now a contractual obligation of all United Kingdom general practitioners (GPs).[1] Practice nurses (PNs) will have an optional role in this process through their involvement in primary care groups.[2]

The effective use of research evidence in decision-making demands the ability to focus a research-oriented question, search electronic databases, assess the validity and relevance of this evidence using critical appraisal techniques, and apply the results in the clinical encounter.[3] Appropriate training for this complex series of tasks should address the individual component competencies[4] and be tailored to the learning needs and preferred learning style of the learner. There is some evidence that GPs perceive considerable difficulty with critical appraisal in general[5] and statistics in particular.[6]

As a provider of 'training the trainers' workshops in evidence-based health care (EBHC),[7] we were concerned about anecdotal reports of low attendance from primary care practitioners on EBHC courses throughout North Thames region. Our specific objectives were to address the following questions:

- What can be said about GPs' and PNs' understanding of EBHC, and what do they perceive their own training needs to be?
- What courses and other training opportunities for EBHC are currently available and being developed in this region?
- Who goes on these courses from primary care, and do the participants feel that the current courses meet their needs?
- Why do most practitioners fail to go on currently available training courses in EBHC, and what incentives might induce them to take up such training?

Method

We undertook an exploratory study based on in-depth, semi-structured interviews during 1997. We identified a number of key groups and used purposive sampling methods (i.e. samples were drawn deliberately to assure a specific range of responders) to recruit informants as follows:

- *Course organizers and trainers*: i.e. those who designed, planned, or delivered courses on EBHC within North Thames region. Ten course organizers and course tutors representing a variety of training initiatives for nurses and doctors throughout the region were approached, all of whom were interviewed. They were asked about their perceptions of who attends their courses from primary care, who does not attend them, and why.
- *Course attenders:* i.e. people from a primary care background who had attended the above courses were accessed through the mailing lists of the various programmes. We identified only six GPs and six PNs in the entire region who fell into this group, all of whom were interviewed. They were asked about their interest in evidence-based practice, their views on courses they had attended, the impact they perceived the courses to have had on their practice, and their views on the particular needs of primary care clinicians for further training in this field.

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Recommendations

The findings of our own and other studies suggest that the content and style of many EBHC training courses in primary care may need to be rethought. The points below are intended, not as definitive recommendations, but as a starting point for further debate about this important topic:

Standardize the terminology but not the training

- There can be no standard prescription for what counts as the 'right' sort of training. There is a strong argument for pluralism in provision accompanied by explicitness and comprehensiveness in the description of what is available. We suggest the use of standard definitions such as those shown in Box 2 for the description of course content.

Recognize and address issues of professional culture

- EBHC training must start wherever the focus of clinical experience lies. The type of research that is viewed as most relevant to nurses tends to be qualitative, interpretive, and based in a social science tradition. Similarly, the more intuitive aspects of general practice do not easily lend themselves to a mechanistic application of Bayes' theorem and other EBHC 'tools'.
- The palpable insecurity within the ranks of primary care towards the information explosion and the current pace of change should be recognized. The marketing of EBHC training as a means of accessing information and keeping pace with 'progress' needs to be done sensitively if it is not to backfire.
- Not all education occurs as formal 'training'. Primary care practitioners will probably continue to receive much of their education informally from consultant colleagues via advice given over the telephone and within clinic letters, and practice nurses will continue to receive advice from GPs and other nurses. We suggest that this traditional route, rather than being dismissed as non-valid in an evidence-based world, could itself become a vehicle for education in EBHC.

Respond to specific requests for content and style of training

- There is considerable potential for EBHC training to be specifically integrated within the topic-based courses that are popular with both GPs and nurses, and that may be perceived (rightly or wrongly) to offer more immediate returns on the training investment than the more abstract critical appraisal courses. As the wider CME programme evolves from a traditional didactic format to one that aims to incorporate the principles of self-directed learning, problem solving, critical appraisal, and change management in practice,[15] EBHC will inevitably become more mainstream.
- The small group, problem-based approach was universally popular with our informants and has been validated in a variety of settings.[7,16] This model, though relatively expensive compared with lecture-based programmes, should be retained and defended. The issue of how best to support 'ad hoc' peer supported learning groups that arise within and across practices, particularly those with no formal academic links, should be carefully considered.
- Although multidisciplinary training for EBHC has enthusiastic advocates and has been shown to work well in advanced level courses,[7] trainers should acknowledge the call for single-discipline, basic-level courses for nurses, particularly those who lack a strong scientific or mathematical background.
- Given that training in advanced critical appraisal is not seen as a priority by either nurses or GPs, trainers might consider initially offering an introduction to high quality secondary sources and only later moving on to the appraisal of primary sources. Thus, the Cochrane Database of Systematic Reviews and the Internet sites of the various centres for evidence-based medicine might prove more popular than training in how to use MEDLINE. Furthermore, MEDLINE training should move away from highly technical search strings, developed for use in secondary research, and focus instead on the ability to access 'what's new' in a topic, or to track down a recent review.
- Since implementing research findings is acknowledged to be the most difficult (but at the same time the most pragmatic) aspect of the effectiveness agenda, this should be taught alongside the more theoretical aspects.

Address major issues of accreditation and funding at a national level

- PGEA accreditation is essential for GP courses. Similarly, PNs want courses recognized and registered so that their training is seen to 'count' by their professional bodies.
- At the time of writing, PNs have no dedicated budget for their personal training and development, falling between HCHS and GMS budgets.[8,17] Change is said to be occurring,[17] and an exciting pilot project is underway to train reflective nurse practitioners for primary care[18] but, at present, training for the majority is haphazard and funding is a major barrier for this group.

Determine and address practical barriers to effective training

- Given the widespread and often considerable barriers to attendance at regular outside meetings, consideration should be given to alternative methods of training, such as distance learning and flexible on-site training.

Box 1. Recommendations for EBHC training courses in primary care.

- *Postgraduate education advisers:* i.e. people who worked at regional or national level and had a particular insight into, or influence over, the design, delivery, or accreditation of educational courses for doctors or nurses in primary care. These included informants in the Royal College of Nursing, academic departments of primary care (for both GPs and PNs), Thames Postgraduate Medical and Dental Education, and the Education and Training Directorate at North Thames Regional Office. Eight people in this group were approached and all were interviewed. They were asked about other research studies and analyses being conducted in this field, and about strategic aspects of planning for EBHC training for primary care.

Our initial plan had been to recruit a sample of practitioners who had never attended courses on EBHC. We used random sampling from health authority lists and also word-of-mouth via GP tutors. After some 20 refusals we abandoned our attempt to reach this group.

Potential informants in the above categories were contacted by letter and followed up by telephone call. In total, we conducted 30 interviews, which lasted between 40 and 110 minutes, and which we tape-recorded, transcribed, and analysed using NUD*IST software as described in our internal report.[8] Interviews were conducted by HRD who grouped responses under theme headings.[9] Data were then reviewed independently by TG, and the convergences and divergences of views between interviewees discussed between the two authors. A draft version of the analysis was sent to informants and they were invited to comment on our interpretation of the data before the final analysis was prepared.

Our perspective

TG is a part-time GP and part-time senior lecturer in primary care, with a first degree in sociology. HRD is a sociologist with

We suggest that, in the context of providing training courses on EBHC and related topics, a standard terminology could be adopted for classifying and marketing them, perhaps using the following definitions:

Evidence-based medicine
The enhancement of a health professional's traditional skills in diagnosis, treatment, prevention, and related areas through the use of mathematical estimates of probability and risk. Such estimates may be derived from an objective and complete appraisal of the relevant primary research literature or obtained from an overview, guideline, decision support system, or other secondary source.

Evidence-based nursing
The enhancement of the nurse's traditional skills in caring for and treating the sick, through the use of valid and relevant research findings derived either from clinical trials and other quantitative work or from qualitative studies into the experience of illness or the use of health services.

Evidence-based health care
The application of any valid and relevant evidence, qualitative or quantitative, in the context of an encounter between a patient and a health professional.

Critical appraisal
The evaluation of a piece of completed research, usually a published paper in a professional journal, by means of structured checklists that address issues of study design, data analysis, presentation of results, and relevance of conclusions.

Clinical research
The study of specially selected groups of patients or other participants, usually driven by a specific hypothesis (and certainly designed to address a defined clinical question), which aims to produce conclusions that will be generalizable beyond the individuals studied.

Research methodology
The general principles and specific techniques needed to conduct original clinical research as defined above.

Research awareness
General understanding of the principles of clinical and psychosocial research and specific knowledge of the published literature relevant to one's own practice.

Audit
The systematic collection of data on one's own patients and practice with a view to comparing this performance with an external standard and thereby improving quality of care.

Box 2. Suggested terminology for classifying and marketing courses in EBHC and related topics.

postgraduate training in health services research and health economics. At the time of the study both authors were actively involved in the provision of local EBHC training courses.

Results

The interview sample comprised six GPs, six PNs, 10 course organizers, and eight education advisers. The response rate in these groups was 100%, and that of the other group we tried to contact (people who had never been on an EBHC course) was zero.

Themes
The major themes that emerged from our fieldwork, which are discussed in more detail in our internal report,[8] were as follows.

Terminology and understanding. Different professional groups assigned different meanings to the terms 'evidence-based medicine [or health care]', 'research evidence', and 'critical appraisal'. Course organizers used these terms in different contexts from one another and from potential delegates, and, virtually without exception, doctors used the terms very differently from nurses — a confusion that has been suspected (but not explored in detail) by quantitative researchers in this field.[14]

For GPs, the term 'research evidence' was used to refer to the results of clinical trials (preferably randomized and controlled), designed and conducted on someone else's patients and offering a generalizable message to a wide range of clinical situations. In contrast, nurses saw 'research evidence' as including local, qualitative, and sometimes anecdotal information collected on one's own patients and serving primarily or exclusively to inform one's own current practice.

Perhaps as a result of this confusion in terminology, the titles of the courses offered in EBHC did not give much indication of their specific content.

Courses available. A wide variety of courses, workshops, study modules, and other training programmes in EBHC were found within North Thames region, but few were specifically designed for, or exclusively marketed to, members of the primary health care team. The range of training available in the field of EBHC was much wider than that provided by the 'official' courses in this area (i.e. those marketed as providing training in database searching, critical appraisal, or implementation of research evidence). Additional training opportunities included a variety of 'research awareness' modules in nursing institutions, and ad hoc training provided by acute trusts (with particular consultants taking the lead), health authorities (mainly through public health directorates), academic departments of primary care, medical audit advisory groups, local medical committees, and other professional advisory groups.

We also found a growing number of informal peer supported learning groups, in which small groups of GPs met regularly to offer mutual support and address clinical topics. Most of these were funded through the London Initiative Zone Educational Incentive scheme. The educational aims of these groups were often ill defined but usually included self-directed learning in critical appraisal or EBHC. The groups were very reluctant to be observed formally, and we were unable to establish the content and quality of the EBHC training occurring in them.

Postgraduate tutors felt strongly that the role of informal networking and educational processes in raising awareness about EBHC was highly significant. They felt that, while very few primary care practitioners have 'been on an EBHC course', an increasing proportion of clinicians are being exposed indirectly as their peers disseminate the concepts at professional meetings, within peer supported learning groups, or in informal discussions within the practice.

What is perceived to be needed? Different individuals, and different professional groups, had different educational objectives.

GPs felt they often needed to access research (i.e. clinical trial) evidence during the clinical encounter to address immediate, individual clinical problems. Ease and rapidity of access, and clarity of presentation, were generally felt to be the most important features of 'evidence' for the busy clinician. Secondary sources, such as the *Effectiveness Bulletins* and *Bandolier*, with a 'clinical bottom line' were preferred by most, but a minority desired and welcomed the opportunity for full training in the critical appraisal of primary research evidence.

Practice nurses and nurse educators told us that nurses need clinical trial evidence, *not* primarily for immediate clinical decision-making, but in order to understand the rationale behind national or local guidelines or protocols on particular topics, and, perhaps most importantly, to support their role as information providers to patients. They did not express a desire for 'on-line' access to research databases or critically appraised topics. Rather, they valued the study of EBHC in a protected, small group environment away from the workplace.

Several nurse informants felt that the available courses in EBHC were too 'advanced' for them, and feared that other participants in multidisciplinary courses would have more background knowledge or be quicker at grasping concepts. They expressed confidence in psychological and sociological disciplines but many were openly fearful of the mathematical aspects of clinical epidemiology.

'Cultural' issues. The practice of nursing was seen by most clinical nurses we interviewed, and by some nurse educators, as an art rather than a science. GPs also talked about themselves as practising the 'art' of medicine as well as a research-based science, and expressed some dissonance between this perspective and Bayesean EBHC teaching.

Many informants from primary care felt overwhelmed by information overload and the excessive pace of change in their clinical practice. Terms such as 'overworked', 'undervalued', 'unsupported', 'under attack', 'stressed', and 'not understood' were frequently used. Against this background, planned professional development, as is increasingly advocated by academic educationalists,[10] was often viewed as a luxury.

The perceived professional isolation of practice nurses in particular was striking. The social aspects of the small group work were greatly valued, and personal friendships were cited as a major reason for continued attendance. They also commented on the absence of senior professional 'role models' in EBHC in the nursing field.

Practicalities. The two major barriers to EBHC training were perceived to be lack of time and, particularly for nurses, financial cost. Courses and workshops based on facilitated small groups, which are relatively expensive to set up and run,[7,11] competed unfavourably with cheaper, lecture-based, didactic courses on clinical topics.

Domestic commitments were another barrier to nurses attending courses, especially in the evening. They expressed the need to spend leisure time recovering from the stress of work, pursuing non-clinical intellectual interests, or meeting domestic responsibilities.

Our data suggest that practice nurses may be receiving mixed messages about their role in EBHC. The clinical effectiveness rhetoric strongly encourages them to undertake training and practise their skills in EBHC, but, in practice, many were unable to join in academic meetings, challenge current practice or protocols, or gain release from clinical duties for 'theoretical' training in EBHC (as opposed to, say, a course on new treatments for asthma).

Discussion

A striking result of this work (conducted in autumn 1997) was the small number of primary care practitioners who had ever been on a formal training course in EBHC. Although we interviewed all 12 of these individuals, as well as a wide range of trainers and organizers of established EBHC courses, our sample was small and select, and this work should therefore be viewed as a hypothesis-generating exercise rather than a definitive study.

A major limitation of this study was the refusal of those without previous training in EBHC to be interviewed. However, our own teaching experience has shown that clinicians with no previous exposure to the principles of EBHC may demonstrate extreme negative attitudes and inaccurate perceptions, but that these often change after a short introductory workshop.[7,8] Since the authors were both well known locally as enthusiastic EBHC teachers based in an academic department, this study may have been perceived as an underhand attempt to recruit delegates to our workshops! It cannot, of course, be assumed that the course organizers we interviewed could provide a valid representation of the views of non-attenders.

A focus group approach, in which a group discussion is facilitated by the researcher in a non-directive fashion, might have been helpful in exploring some of the themes in more detail, but was not attempted for logistical reasons (informants had heavy work and domestic commitments and did not live near one another). We did, however, cross-check the validity of our interpretation by circulating a draft of this paper to all those interviewed, and inviting comments or corrections (we received none).

Despite these limitations, these qualitative findings accord closely with those previous quantitative surveys of GPs,[12] doctors and nurses in primary care,[13] and a region-wide training needs analysis of primary health care teams.[14]

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