# General practitioners' continuing education: a review of policies, strategies and effectiveness, and their implications for the future

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*SUMMARY*

***Background.*** *The accreditation and provision of continuing education for general practitioners (GPs) is set to change with new proposals from the General Medical Council, the Government, and the Chief Medical Officer.*

***Aim.*** *To review the theories, policies, strategies, and effectiveness in GP continuing education in the past 10 years.*

***Method.*** *A systematic review of the literature by computerized and manual searches of relevant journals and books.*

***Results.*** *Educational theory suggests that continuing education (CE) should be work-based and use the learner's experiences. Audit can play an important role in determining performance and needs assessment, but at present is largely a separate activity. Educational and professional support, such as through mentors or co-tutors, has been successfully piloted but awaits larger scale evaluation. Most accredited educational events are still the postgraduate centre lecture, and GP Tutors have a variable role in CE management and provision. Controlled trials of CE strategies suggest effectiveness is enhanced by personal feedback and work prompts. Qualitative studies have demonstrated that education plays only a small part in influencing doctors' behaviour.*

***Conclusion.*** *Maintaining good clinical practice is on many stakeholders' agendas. A variety of methods may be effective in CE, and larger scale trials or evaluations are needed.*

*Keywords: continuing medical education; general practitioners; postgraduate educational allowance.*

## Introduction

> *Belief in education as a method of influencing general practitioners (GPs) is confirmed. But gains in knowledge, skills and changes in behaviour seem harder to achieve.*[1]

HORDER *et al*'s comment in 1986[1] expressed the inconsistent relationship between general practitioners' (GPs) continuing education (CE) and improvements in clinical care. Twelve years later the Chief Medical Officer's review of the GP postgraduate education (continuing professional development) has been published.[2] The 1997 Government White Paper on the National Health Service (NHS) proposes a monitoring of clinical behaviour by a (yet to be defined) system of 'clinical governance',[3] and the mechanisms for a reaccreditation process for GPs has been debated for five years,[4] but have been given a boost by the General Medical Councils' (GMC's) action following the hearings with the Bristol doctors.[5] Has GPs' CE become more effective, or is Horder's statement still relevant in 1998?

This review aims to inform the debate on forthcoming proposals and to indicate areas for further research. We consider the background to CE; the relation of educational theory to practice; CE today, its effectiveness and evaluation; and the implications for a reaccreditation process.

### *Background*

The Royal College of General Practitioners (RCGP), after a review and consultation,[6-8] produced a policy document in 1985 (*Quality in General Practice*[9]) outlining a new strategy to accommodate the three career stages of the GP. These were the summative assessment of vocational training, the establishment of higher professional training for young practitioners, and the promotion of CE for established GPs. Fellowship by assessment was established (through peer review) to represent a new gold standard of quality.[10] The Conservative Government incorporated a new postgraduate education allowance (PGEA) into the 1990 Contract and re-introduced financial incentives for attendance at educational activities.[11] It was funded by a reduction of seniority payments, seen as contentious,[12] and possibly diminished its status.[13] Monitoring and accreditation of courses to allow GPs to collect appropriate credits towards their PGEA was the responsibility of directors of postgraduate GP education (formerly regional advisers). The GMC minimum competence assessment procedure became operational in 1997, and seeks to identify and train failing doctors.[14,15]

## Method

Computerized searches were made on the MEDLINE, Psychlit, and BIDS databases using the textwords 'continuing', 'medical', and 'education' for the past 16 years. Every article relating to family or general practice (144) was examined, as were review articles on continuing medical education in all specialties (89). Manual searches were conducted of the *British Journal of General Practice, Family Practice, Education for General Practice, Medical Education,* and *Medical Teacher* for the past 10 years. The British Library's book database was accessed and searched. All relevant articles were considered and their data and conclusions evaluated using recommended published criteria.[16] Comments in the text indicate where data or conclusions are based on less robust evidence. Articles based on opinion are quoted as such. Draft versions of this manuscript were reviewed by current commissioners and providers of education and an educationalist, and their comments on omissions and inaccuracies were incorporated.

### *Educational theory and practice*

Pendleton differentiated between the academic and professional approaches to continuing education.[17] Practising doctors, he says, wish to maximize the educational return on their investment of

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time. Many current CE approaches are based on an academic model that may be too narrow and not based on practical problems. Hayes, in a personal view, stated that CE should help doctors reflect creatively on their learning and that content should match the needs of the learners.[18]

Learning experiences for adults are best organized around real-life situations rather than subject-matter units,[19,20] and the material used should reflect practical day-to-day concerns and be relevant to their daily lives and tasks.[17,18] The adult learner's previous knowledge and experience are a rich resource for learning: an approach known as andragogy.[19] Adults respond well to external motivators, such as salaries and better jobs, but internal motivators, such as self esteem, recognition, and self actualization are equally powerful.[21,22] A fuller review of educational theories relevant to CE has been published.[23]

Small group discussions were preferred to lectures as a way of obtaining CE,[24] especially by GPs from teaching practices.[25] They are not intrinsically superior to other educational methods; may be counterproductive if used uncritically;[26] and require good facilitation.[27] Discussion groups allow the sharing of experiences but need managing to promote reflection,[28] and may often resemble 'a sterile exchange of prejudices' if the group lacks certain knowledge.[20] Kolb believes that linking experience and reflection to current theories (the evidence base) is the next vital step in new learning,[29] to be followed by experimentation (Figure 1), although this remains to be tested by research in GP CE.

Audit is one way of defining 'real' educational needs rather than those desired by the learner that typically do not follow a planned programme (educational 'wants').[30,31] The learner must be involved in defining his/her needs, but ideally this should include some consideration of performance.[32,33,34] Although audit was introduced into general practice in the 1970s, clear guidelines for criteria and standards by which GPs could be measured were not agreed until a decade later.[9,35] Audit became incorporated as a contractual requirement in 1990 with the setting up of Medical Audit Advisory Groups (MAAGs).[36] Audit assesses performance, and there is preliminary evidence that it is more successfully used in a formative way, with the results used to inform and give feedback, rather than to be used summatively (pass/fail, good/bad).[37,38] Audit's use in a total quality management (TQM) sense in general practice has been described.[39,40] Health authority facilitators were introduced in the 1980s and have been shown to influence risk factor recording[41] and asthma care,[42] although the overall effectiveness of the programmes has been questioned.[43] The assimilation of audit into CE is not clear and, at present, the activities are largely separate.

Educational and professional support have been identified as important factors in promoting learning and personal development,[44] and reflects andragogic theory.[19] Reflective learning portfolios have been introduced by the United Kingdom Central Council for Nursing (UKCC)[45] and the Faculty of Public Health Medicine.[46] Mentoring with portfolio learning has been advocated as a strategy to improve performance through reflection and facilitated self-direction with the mentor,[44,47] and personal educational plans are being promoted in some areas[48,49] but there is insufficient literature to evaluate these developments.

The mentors' role is not simply one of support. Challenging and promoting conscious reflection are additional vital skills.[50] Trials of one-to-one mentoring are underway, with some positive initial results reported,[51,52] but this approach currently remains unproven as a mechanism to produce behavioural change in practice. Individual mentors require funding, training, and support themselves,[53] and, as a one-to-one activity, is not feasible for every GP.[54] Strategies where a group 'mentors' itself are being piloted,[55] and the East Anglian co-mentoring (or co-tutoring) scheme has been described, but its evaluation has not been published.[56] In the Irish[31] and Wessex models, the GP tutor's role has been re-defined and strengthened with a network of 'associate tutors' responsible for localities (Percy D, personal communication, 1997).

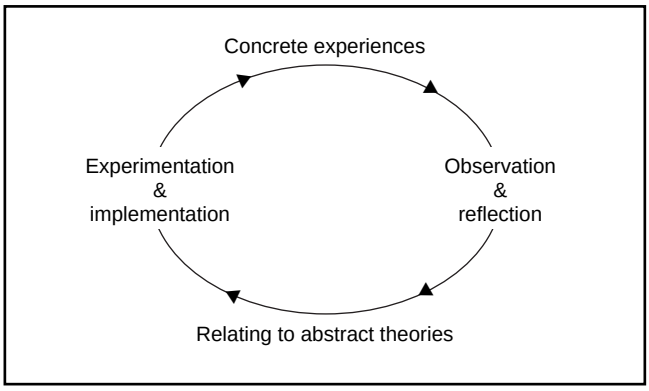


**Figure 1.** The Kolb educational cycle.[29]

## *CE today*

*Characteristics of the learner in continuing education.* The vast majority (95%) of GP principals claim the PGEA allowance.[57,58] Financial reasons were cited as motivational factors by a third of one group of GPs since the 1990 Contract, compared with 3.8% in 1989.[59] Interest was a good motivator pre- and post-Contract, and socializing and linking with consultant colleagues were key motivating factors in 1987.[60]

*Characteristics of the educational events*. The lunchtime lecture remains the most frequent PGEA event. In 1987, 72% of West Midland GPs attended on at least one occasion per year,[60] while only a quarter attended small group or half-day meetings. This has remained the pattern post-PGEA,[61,62] with one- or two-hour meetings being the norm,[61] although small group teaching methods are favoured in some areas.[63]

Sixty-seven per cent of attendance hours occurred in postgraduate centres and 6.8% in practices.[62] The speakers at PGEA-approved events mainly came from secondary care (64%, of whom 87% were consultants), while 26% were from primary care (of whom 78% were GPs).[64] Consultants' main role in CE remains the postgraduate centre lecture, although some have expressed preferences for small group teaching and discussions on shared cases.[65]

Meetings sponsored by the pharmaceutical industry have had mixed evaluation.[66] One survey found them to have more interesting topics and alluring hospitality than other meetings,[59] while 60% of pharmaceutically-organized practice meetings were thought to have little or no educational value; they were more valued by practices not involved in under- or postgraduate teaching.[25,67] Different agendas, such as market forces, may motivate course providers, and PGEA events are rarely coordinated.[68] Some projects, such as the London Initiative Zone Educational Incentives scheme, has had success in engaging GPs in a variety of CE activities,[48] although the long-term and overall impact of these schemes are not yet known. Structured study is found in postgraduate courses,[69] and the introduction of part-time and modular opportunities for study leave has increased the uptake of MSc and diploma courses (R Hornung, personal communication, 1997).

- To establish dialogue with clinical tutors and managers to identify priority areas for CE,
- to build and support a network of small groups of GPs,
- to create opportunities for the PHCT to learn together,
- to assist small learning groups to set objectives that can be measured,
- to work with clinical tutors to make postgraduate centre activities relevant to primary care, and
- to apply diffusion of innovation theory when seeking to influence performance review.

**Box 1.** The role of GP tutors (after Wood 1988).[71]

*Co-ordination of CE events.* Locally-based GP Tutors were appointed formally to administer the PGEA system. Prior to 1990 their role had been largely a voluntary one, usually dependent on traditional postgraduate centre based education programmes.[70] Wood suggested that the new GP tutors' role would be crucial in improving CE (Box 1).[71]

This perception of the role of GP tutors is not uniform. One leading observer described the GP tutor's role as to 'loosely coordinate CE',[49] while another suggested that the GP tutors 'exert a powerful influence in encouraging innovation and shaping CE in general practice'.[72] Middleton saw the role as defining local education needs by survey, research, and audit.[73] A survey of the tutors in England showed over 80% described the organization of continuing education as their commonest activity, but over half were unable to fulfil all their tasks, with lack of time cited as the main obstacle.[64]

## Evaluation: evidence for effectiveness

The effectiveness of CE depends on the perspective taken; for example, some suggest that effective CE has to deliver doctors who practise evidence-based medicine,[74,75] while others suggest that it should lead to changes in behaviour.[76]

### *Models*

Effectiveness is said to be increased by adherence to various models. Harden's CRISIS[77] and the Standing Committee on Postgraduate Medical Education's (SCOPME)[78] models are shown in Box 2. Their criteria relate to the principles of adult learning and relevance to clinical practice.

### *Assessment*

How can effectiveness be judged? Educational evaluation is an appraisal of the teaching/learning process to judge the value of the experience and plan for future events.[79] Kirkpatrick suggests a four-level hierarchy of evaluation.[80] Level one is concerned with learner satisfaction; level two, with a change in measured knowledge or skills, or competence; level three, with a change in observed behaviour or performance; and level four, with an impact on the wider community (e.g. health gain by the population). The public, health authorities, and professional bodies have expressed interest in levels three and four,[81] although studies have confirmed the difference between GPs' competence and performance.[82] The relationship between competence and performance is complex,[83,84] with many factors, including previous experience and conflicting priorities, such as time, influencing what a doctor actually does.

*Randomized or controlled trials.* One approach to measuring CE effectiveness has been by experimentation. Davis and colleagues reviewed 99 randomized controlled trials (RCTs) of various educational strategies to change competence and performance, but did not separately report on those set in primary care (total 35).[85] The three trials set in UK primary care are summarized in Table 1.

CRISIS model (after Harden 1992)[77]
- Convenience
- Relevance
- Individualization
- Self assessment
- Interest
- Systematization

SCOPME model[78]
- Is the system flexible enough to meet present and future needs?
- Is it accessible to both the highly-motivated and the average performer?
- Are there mechanisms to ensure that CME is responsive to the corporate needs of the NHS?
- Is performance improved for all doctors in the system and how does the number of poor performers relate to use of the scheme?
- What training inputs are required?
- How much time is needed for the process of reflection, appraisal, planning, and personal review?
- What is the impact on departments and trusts in terms of study leave requirements?
- How can the outcomes be measured?

**Box 2.** Models for effective CE.

From their overall data, Davis concluded that doctor reminders, in the notes or on computer, were the most effective single intervention. Audit has been promoted as a good way of effecting behaviour change;[32,89] however, Davis *et al* found it to have variable results, but that it was more effective when the feedback was in the form of case review. Other effective interventions were peer discussion and rehearsal of skills (such as communication skills).[90]

Wensing and Grol reviewed CE strategies in primary care and found 75 trials that were RCTs or that included a control group, but were unable to pool the studies for a meta-analysis.[91] Four of their studies were in UK general practice and are summarized in Table 1. They concluded that individual instruction, feedback on performance, and reminders (such as note or computer prompts for screening or diagnostic procedures) were the most effective single strategies. Combined strategies, particularly with a combination of peer review and feedback, were perhaps more effective. However, a study of Canadian GPs found no relationship between quality of care, as judged by prevention and prescribing, with a variety of CE activities.[95]

Guidelines have in some cases been shown to improve note recording and clinical care; for example, asthma prescribing,[96] and success tends to occur where they are locally developed and are disseminated through a specific educational programme, with patient-specific reminders during the consultation.[97]

A review of the educational strategies tried for mental health problems in primary care concluded that activities should be practice based and involve peer review, and suggested that screening tests and computer prompts might be usefully extended.[98] All the reviews of CE effectiveness reported much conflicting data, making generalizable recommendations problematic.

*Qualitative studies.* The above reviews excluded qualitative methods from their surveys. It has been argued that qualitative

**Table 1.** RCTs and controlled trials of educational strategies set in UK primary care.

| Author | Subject | Intervention | Number of GPs | Main results |
|---|---|---|---|---|
| [a]Pierce[86] | Cervial smear uptake | a) Note tagging<br>b) Letter to patient | 5 | Equally effective compared to usual care |
| [a]White[87] | Asthma morbidity | Group education | 27 | No effect |
| [a]Szezepura[88] | CVD risk factor recording and preventive services offered | Feedback of survey results and visit from FHSA facilitator | 197 | No effect |
| [b]Verby[92] | Consultation technique | Video and peer review | 17 intervention<br>12 control lengthened | Intervention group skills improved and consultations |
| [b]Harris[93] | Prescribing | Written feedback<br>and peer review | 23 intervention<br>14 control | More rational and generic prescribing |
| [b]Fullard[41] | CVD risk factor screening | Facilitator | 7+ 'group practice' in each group | 12-29% more patients screened |
| [b]Russel[94] | Clinical management of 5 childhood diseases | Peer review and standard setting | 84 trainers in 'before and after' design | Less drugs prescribed in 2 out of 5 groups |

[a]After Davis et al 1995;[85] [b]after Wensing and Grol 1994.[91]

investigations are probably more appropriate to investigate the complex nature of behaviour change.[99] The many variables that effect behaviour change are difficult or impossible to account for in RCTs;[100] for example, a critical incident study found that 76% of the reasons for change by GPs was accounted by six factors: organizational (18.6%), professional contact and education (13.6% each), economic and patient contact (10.7% each), and clinical experience (9%).[101] Another qualitative study on prescribing changes by GPs found that traditional agencies of change, such as clinical meetings, journal editorials, etc, cannot be expected to bring about change, and at best can only prepare the ground.[102] Learning was cited as a reason for change in over two-thirds of cases by 340 American doctors, but less than half of these involved CE.[100] Thus, educational initiatives play only a part in behaviour change; perhaps explaining the variable and negative results of the RCTs and why educational strategies are only one method of influencing clinical behaviour. Others include marketing, organizational methods, and coercion.[103] Patient outcomes are affected by many variables, and the chances of isolating the effect of CE from the confounding factors are remote.[104] More exploration of alternative methodologies is needed, rather than a reliance on quantitative methods alone, but the methods used should depend on the questions asked.[105]

## Proposals for reaccreditation

The terms 'reaccreditation' and 'recertification' are often used interchangeably. The Royal College Of General Practitioners (RCGP) has proposed that recertification refers to the periodic licensing of individual practitioners, while reaccreditation refers to a licensing process applied to organizations.[106] The classification of methods used for reaccreditation have been divided into three main categories: examination, attendance at educational events, and peer review.[107]

Reaccreditation is a well-accepted fact of life for many primary care doctors outside the United Kingdom. In the United States, CE credits for CE are linked to recertification requirements in some states, and are linked to recognition by some insurance schemes. The emphasis has been on process and knowledge base, rather than skills or performance,[108] but there is a trend towards the development of clinical skills.[109,110] In Canada, the Maintenance of Competence Program (MOCOMP) promotes self management of learning and encourages local practice-based educational activities. The activities are recorded in a diary and assigned an outcome for assessment.[111] In Australia, the Royal Australian College of General Practitioners introduced a system based on portfolios and educational activities, and were the first to differentiate between quality of activity (e.g. one hour in a sponsored lecture is worth one credit, while one hour spent in practice-based audit is worth three credits).[112] In Europe, Norway has had a voluntary reaccreditation programme for GPs since 1985, and, since this is linked to a pay differential, most doctors apply.[113] The Netherlands have produced quality initiatives and guideline programmes linked to reaccreditation.[114]

Reaccreditation for British doctors is supported by a majority of GPs,[115,116] although there is no consensus on the mechanism. However, it has been College policy for 50 years. The RCGP advocates evaluation through peer review.[10,107] The systems currently proposed seek to define minimum competence and to exclude GPs failing to improve to these standards[84] with one method using performance indicators.[5,117] While these proposals may foster a defensive view of reaccreditation,[118] management theory suggested that a small improvement by all doctors would benefit more patients than merely an improvement of the best and the worst doctors (Box 3).[119,120]

An inclusive approach has been proposed where the GP tutor visits GPs yearly to discuss their educational needs, plans, and learning strategies,[121] while another approach proposes a higher professional education course.[122] The ideal strategy would seem to include both minimum competence checks and support for everyone's CE.[123] The new General Medical Council's powers are designed to do the former,[14,15] leaving the latter for the current CE providers.

'The impact on public health will be greater if the majority improve their effectiveness by 5%, than if the keenest improve by 10% and the worst by 200%.'[119]

'Polishing all the apples rather than ... weeding out the bad ones.'[120]

**Box 3.** Opinions favouring an inclusive approach to CE (After Gray[119] and Berwick[120]).

PGEA credits have become valuable currency, but serious doubts have been raised about their educational quality.[124] If GPs themselves are sceptical about the relationship between the acquisition of CE credits and their development and practice, then the 'currency' will be devalued.[125] A more critical approach to PGEA evaluation has been proposed using educational criteria.[126]

## Implications

The evidence of the past 12 years shows that Horder and colleagues' comments are still relevant in 1998, but the meaning generated by their observation has changed. The relationship between education and behaviour change is better understood and more is known why the latter is 'difficult to achieve' by CE alone. Adult education theories suggest effective strategies for CE but none have been adequately tested in primary care, and the traditional approaches to CE continue through the postgraduate centre lecture.

The introduction of the PGEA in 1990 generated considerable growth in educational opportunities for GPs, but there have been concerns over its appropriateness. New learning strategies (groups, mentoring, guidelines, etc) have been proposed and tested locally with some success, but await larger scale evaluation. It is likely that a variety of approaches will be required for CE and its evaluation.

A number of motivating factors influencing participation in formal CE have been identified, including professionalism, finance, and regulation. The tension between educational 'wants and needs' must be resolved, and the role of audit in CE established. Examples from overseas illustrate that accreditation can both direct the format as well as the result of CE. At present it is unclear which structures would be more appropriate in the UK. There seems little doubt that there will be an increasing pressure from the public, health authorities, and the Government for demonstrable improvements in health care. The NHS and the profession must commit to an investigation of the best methods and structure for GP CE, otherwise Horder's comment may still be relevant in 2010.

*Education costs money, but then so does ignorance.*[127]

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