Questioning in general practice — a tool for change

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SUMMARY

In general practice, as in all branches of medicine, doctors are encouraged to ensure their decisions reflect research findings, and are 'evidence-based'. This depends upon general practitioners (GPs) questioning their practice, finding 'evidence-based' answers, and changing their practice where necessary. Questioning behaviour is therefore fundamental to this process. Research into the questioning behaviour and information needs of GPs is difficult and it is unknown whether better access to information necessarily results in behavioural change or better health outcomes.

This paper summarises research on doctors' questioning behaviour, factors influencing their likelihood of finding answers, and discusses some of the obstacles they face in implementing change. Finally, we introduce the concept of a 'clinical informaticist', whose role is to provide evidence-based answers to specific questions raised by GPs. This service may facilitate learning and increase uptake of research findings.

Keywords: evidence-based; questioning behaviour; clinical informaticist.

Introduction

EVIDENCE-BASED medicine (EBM) is 'the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients'; the integration of clinical expertise with best evidence from systematic research.[1] Central to the National Health Service (NHS) priority for clinical effectiveness,[2] it gains increasing importance for general practitioners (GPs) as primary care groups turn their attention to 'clinical governance'.

It is unclear what proportion of primary care is (or should be) 'evidence-based'. One retrospective study in a training practice classified 81% of interventions as evidence-based.[3] However, in 50% of interventions this classification was based on 'convincing non-experimental evidence' decided by consensus and the methodological quality of the randomised controlled trials (RCTs) supporting the remaining 31% of interventions was not assessed.

The true proportion is probably lower; training practices are atypical. Our patients do not necessarily present with 'evidence-based' problems. They rarely have a single, discrete problem allowing application of the results of RCTs and it may be necessary to consider results of qualitative studies that address questions not amenable to RCT methodology.[4] However, knowledge of the evidence combined with an understanding of the individual patient can help our decision-making.

We have no 'evidence' that EBM provides better overall care than whatever we like to call what went on before.[5] Many GPs have doubts about the EBM 'bandwagon'. However, many may welcome the opportunity of direct access to relevant evidence to help them in their day-to-day work.

There are significant delays in the uptake of research findings. This may result partly from the cultural divide between researchers, practitioners, and administrators.[6] It may also be related to real difficulties in implementing the learning cycle (Figure 1).[7] This encompasses reflection on current experience (i.e. the consultation), incorporation of new concepts (this is where the evidence is important), and (perhaps most difficult of all) remembering to use this new knowledge in the heat of the consultation. Active learning is fundamental to the process of change.

Studies show that GPs are confronted with questions during every surgery.[10,11,13,14] The challenge is to promote uptake of innovations that are known to work, delay spread of innovations that may not yet have been shown to be effective, and to prevent uptake of innovations that are ineffective.[7] This may involve resisting pressure from pharmaceutical companies, patients, and colleagues.

This discussion paper outlines some of the research suggesting that GPs need the help of a skilled professional, the 'clinical informaticist'. Such a service is currently being developed and evaluated and is proposed as one way of assisting EBM in general practice.

The topics covered here are:

- The questioning of doctors;
- looking to the literature for answers;
- barriers to evidence-based change; and
- the 'clinical informaticist' as a bridge to EBM.

Literature search

A Medline search was done from 1990 to November 1998 to find literature on the questioning behaviour of GPs. The following MeSH terms were used:
'family practice'; 'primary health care'; 'physicians, family'; 'physician's practice patterns'; 'evidence-based medicine'; 'guidelines'; 'clinical protocols'; 'health planning'.

Textword searches were done using the terms: 'family practi$'; 'general pract$'; 'evidence-based'; 'change'; 'implement$'; 'influence'; 'behav$'; 'strateg$'; 'clinical$ effect$' ($ is a truncation symbol).

A science citation index search identified papers that had quoted a key article.[8] Relevant references of papers retrieved were read. Further articles were obtained through communication with others working in this field.

Do doctors really ask questions?

Research suggests that they do (Table 1). Estimates vary from five questions per patient to 0.5 questions per half-day, depending on the methodology used and the setting.[9-11,13,14] Whether this reflects the 'real world' is uncertain; involvement in a study of this topic can alter the very behaviour which is under investigation (Hawthorne effect).

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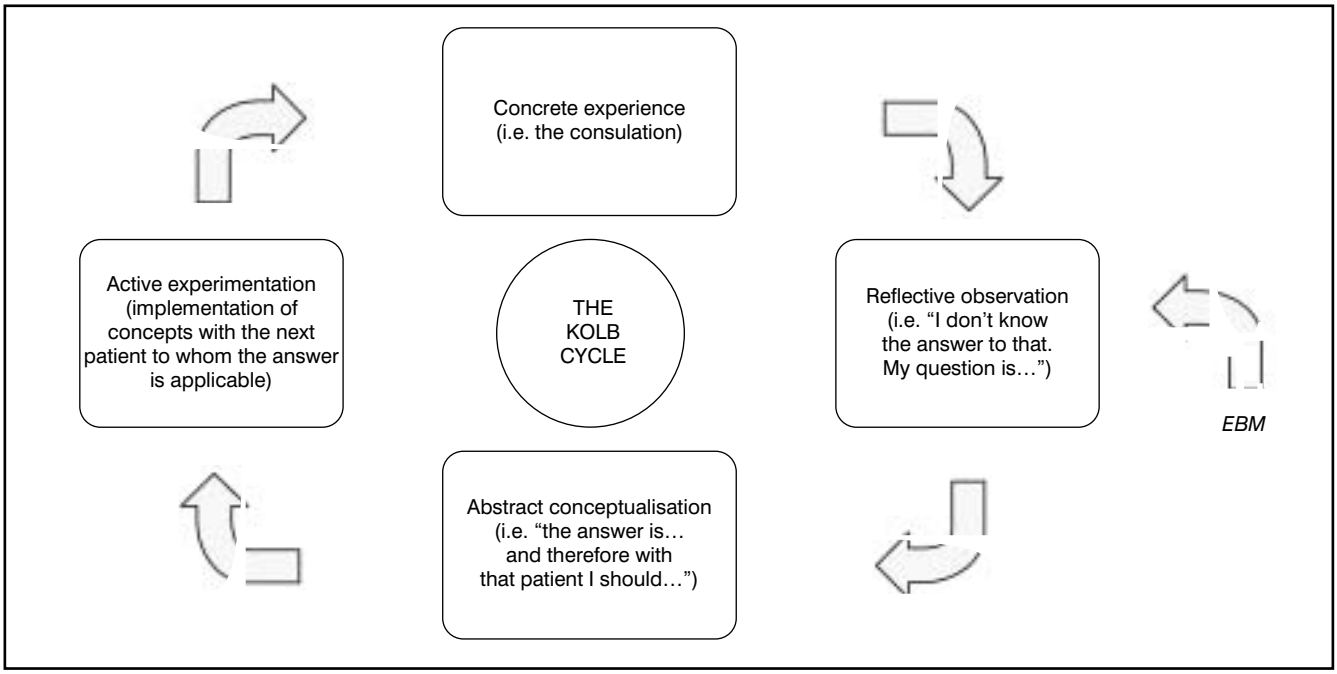

Figure 1. The Kolb cycle. (Italicised comments added by author.)[6]

Table 1. The questioning behaviour of doctors.

Study	Rate of questioning	Setting	Method of eliciting questions
Osheroff et al[9]	5 questions per patient	University medical department	Observation/ recording of teaching scenarios
Covell et al[10]	2 questions per 3 patients	GP	Interview after each consultation
Gorman et al[11]	1 question per 2 patients	GP	Interview after each consultation
Barrie et al[13]	2.4 questions per 10 patients	GP	GPs made written record during session
Chambliss et al[14]	0.5 questions per half-day	GP	Interview/dictation after session

An observational study in a teaching context within a university-based medical department reported five clinical questions per patient discussed, 74% of which were motivated by the needs of patient care.[9] Not surprisingly the frequency of questions raised in this setting is high. However, it illustrates the huge potential for questioning during each patient contact.

Covell *et al*, who elicited questions at interview after each consultation, found that doctors formulated two questions for every three patients seen.[10] This far outweighed their anticipated need for information. Eighty-three percent were questions of medical fact or opinion. Answers were usually obtained by consulting colleagues rather than print sources as the doctors had suggested. Furthermore, only 30% of questions were pursued.

Using similar prompting, Gorman *et al* found that questioning occurred at a rate of one question for every two patients.[11] Follow-up after two to five days revealed that answers were more likely to be pursued if the patient's problem was urgent or if the doctor believed a definitive answer existed. Again, most questions remained unanswered. The authors emphasise the importance of encouraging doctors to actively pursue questions, contrasting this with the passive dissemination of information. Dissemination is an insufficient way of diffusing innovations, as studies of guideline dissemination have shown.[12]

In a further study, which considered only questions of a clinical nature, GPs made a written record of questions as they arose during one clinical session. A total of 2.4 clinical questions were recorded per 10 patients seen, for which answers were found to 79% within one week.[13]

Chambliss *et al* found that GPs asked questions at a rate of 0.5 per half-day.[14] The lower rate obtained may reflect the fact that questions were elicited after the session, rather than by prompting during the session. The authors felt this was more representative of questions that GPs may pursue themselves, avoiding questions that arise solely in response to prompting during surgery.

Can the literature provide the answers?

Yes — well, often! An extension of Gorman's study involved submitting a random sample of the questions to medical librarians, who searched the literature to select references that were sent unappraised to the GPs. Eighty-eight percent of questions were judged appropriate for Medline searches. Clinicians evaluated the material retrieved as relevant to the question asked in 56% of cases, providing a 'clear answer' in 46%. Searching and selection of articles took about three-quarters of an hour — time-consuming for GPs who may wish to do this themselves (especially as this is before they start reading them!) There was no dialogue between the clinicians and the librarian, hence no opportunity to 'frame' the question (the technique of forming searchable questions).[15] This may have reduced the librarian's ability to select relevant material. Clinicians estimated a potential impact on patients in 40% of cases although articles were sent to physicians six to 12 months later, raising the issue of recall bias.

Chambliss *et al* selected questions to submit for Medline searches by medical librarians who then sent the four most

appropriate articles to the questioner.[14] One of the authors (a family physician) did supplementary Medline searches when this was deemed necessary and the authors also consulted selected textbooks. It is unclear what criteria were used to select questions for searching or to determine the need for supplementary searches. Physicians felt that 54% of the questions were 'fully' or 'nearly fully' answered by the references and 55% of participants said they might use a similar service if it were commercially available, providing it was rapidly accessible, required little work, and provided succinct specific answers.

In a hospital study, clinicians indicated that information needs that remained unsatisfied following discussion with colleagues were not worth worrying about unduly as they were inevitable.[16] However, they felt it was important that services that might be developed to help them monitor the literature should not remove the incentive to read the main periodicals themselves.

In reality, the pursuit of answers to questions requires not only an information need but also recognition of this need and a desire to seek the information. The wants and needs for information are quite different.[17] The tendency of doctors to seek answers from colleagues is frequently reported.[10,11,16] Obviously, it is quicker than other methods. It may also reflect a need to share in decision-making, a desire to transfer responsibility, or simply a lack of skills in interpreting medical literature.

Barriers to change

There are various barriers to the implementation of evidence-based change including:

- lack of awareness and use of evidence sources;
- ineffective methods of disseminating the evidence;
- difficulty in changing long established practice;
- lack of time;
- lack of skills to access the evidence;
- patients' expectations may conflict with the evidence;
- absence of evidence (as opposed to evidence of ineffectiveness); and
- the uncertain nature of many GP consultations.

Sources of evidence

There are many sources of evidence-based information. *Bandolier* contains evidence-based summaries and the *Journal of Evidence Based Medicine* contains summaries and commentaries of studies (selected from over 50 journals) that adhere to rigorous methodological standards.[18] The BMJ Publication group has recently launched *Clinical Evidence*, a handbook of best evidence presented in a format akin to the *British National Formulary*. The NHS Centre for Reviews and Dissemination and the Cochrane Collaboration produce rigorous systematic reviews. Furthermore, there are many web sites on EBM, some with searching capabilities.[19] Unfortunately, many GPs do not yet have easy access to the Cochrane Library or the internet and the distribution of evidence-based literature varies regionally. Non-principals may have particular difficulty gaining access to evidence sources. For those who want to develop critical appraisal skills (now an essential element of the MRCGP examination) there are workshops available.[20]

Awareness of evidence sources

Awareness and use of evidence-based information sources (especially electronic sources) is low. One questionnaire survey reported that only 9% of the sample GPs 'referred regularly or occasionally referred' to the Cochrane database.[21] Reference to printed sources of evidence such as *Bandolier* and *Effective Health Care* was higher at 29% and 30% respectively. Reference to the GP press and refereed journals (that are not subject to the same rigorous standards) was even higher. This was a survey of reported awareness and use of evidence sources, not implementation. It does not address the likelihood of GPs seeking out literature, or implementing research findings. It would, however, support a need to increase access to information, if full use is to be made of the evidence-based literature.

Another survey among GPs found that awareness of the Cochrane Database of Systematic Reviews, *Bandolier* and *Effective Health Care* bulletins was 40%, 52%, and 60% respectively. This may be an overestimate; responders to the survey were more likely than non-responders to have MRCGP or be members of a primary care research network. Responders expressed reluctance to master EBM skills themselves. Over half thought the best way to move towards EBM was through using evidence-based guidelines or protocols. Only 5% thought it should be by 'identifying and appraising the primary literature or systematic reviews'.[22]

Guidelines as a means of implementing evidence are not problem-free. They:

- answer a limited range of questions;
- are not always evidence-based;
- are not always relevant to a particular patient's needs; and
- are difficult to organise in such a way that they are easily accessible within the consultation.

Disseminating the evidence

The benefit of traditional models of continuing medical education (CME) as a means of changing doctors' performance has been questioned. A review of 50 RCTs demonstrated that interventions that use only the communication or dissemination of information were unlikely to induce changes in performance and registered little or no effect on health care outcomes. Strategies that included enabling (facilitating the desired change in the practice site) and/or reinforcing (by reminders or feedback) were more effective.[23] These findings were confirmed in an updated systematic review of 99 trials.[24] Effective strategies for encouraging physician improvement included: physician reminders, outreach visits, and opinion leaders. Multifaceted activities were better than single interventions and change occurred more frequently when barriers to change were addressed and resources deployed to help learners.

Practice information activities

Two recent studies considered practice information activities in the Trent region and in the Anglia and Oxford region. One-third and one-quarter of GPs respectively felt that their information needs were not satisfied. Among the reasons cited were: time restraints, information overload, difficulties of access, lack of knowledge of how to use certain sources, and organisational problems. About 25% of GPs in the Anglia and Oxford study reported a need for more information in relation to effectiveness and evidence-based medicine. The Trent study resulted in the development of guidelines for best information practice, especially the need for each practice to have an information strategy.[25]

Answering questions as a tool for change

Physician performance can be improved; however, even when robust evidence from systematic reviews, meta-analyses, and RCTs is accessible, transferring results into practice poses a chal-

lenge.[26] Increasing the ease with which GPs can find evidence-based answers to their own specific questions may be a valuable tool. At Imperial College School of Medicine a service is currently underway in which a 'clinical informaticist' (a GP trained in literature searching and critical appraisal) provides evidence-based answers to questions posed by GPs. The informaticist supplies an answer with a reference list and a critical appraisal of the literature on which the answer is based. This approach contrasts with the passive distribution of information; participants have a sense of 'ownership' of the questions and the information supplied is specific to their requests.

We believe that a GP is best suited to the informaticist role, because:

- doctors like to ask colleagues for answers;
- a GP is likely to understand the exact nature of the question and the context in which it is asked; and
- a GP is ideally placed to help a colleague 'frame' a question.

The service addresses several of the obstacles to EBM, especially time constraints, lack of skills, and lack of awareness of evidence sources. The evaluation will aim to establish whether such a service is a useful, acceptable, and effective tool for learning about and implementing evidence-based health care.

Key points

- The practice of evidence-based medicine relies on doctors formulating questions that arise from their clinical work.
- It is difficult to measure the questioning behaviour of doctors, and estimates of doctors' information needs differ significantly.
- Doctors tend to seek answers from colleagues.
- Many questions remain unanswered.
- GPs' awareness and use of sources of evidence is low.
- Providing GPs and nurses with answers to their questions based on a critical appraisal of the literature, may be one method of implementing evidence-based change in practice.

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