

# The attitudes of Australian GPs to evidence-based medicine: a focus group study

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**Background.** Over the last 6 years there has been an exponential increase in the publication of medical literature on evidence-based medicine. In Australia, as in many other parts of the world, there have been calls for an increase in the practice of evidence-based medicine. In general practice, two major themes of criticism have been the lack of relevant research evidence in primary care and the failure of evidence-based medicine to take into account the complexity of the consultation.

**Objective.** We aimed to explore the attitudes of Australian GPs to evidence-based medicine.

**Methods.** We conducted a qualitative study using evidence-based guidelines as a model to explore attitudes within focus group interviews. Focus group data were analysed using grounded theory methodology. The study was set in the Australian cities Melbourne, Adelaide and Darwin. The subjects were 27 GPs in five focus groups.

**Results.** Data were used to generate a model illustrating factors affecting the consideration and use of evidence within consultations. Prior beliefs and experience had a strong influence on decision-making. Overall, the GPs had a positive attitude to evidence-based medicine and stated that this could be a helpful strategy for meeting their information needs. These needs arose during the consultation and were frequently generated by patients. The evidence-based approach was regarded as particularly useful when patients required validation of their management or had specific queries. However, the GPs also expressed some concerns, such as the application of evidence from clinical trials to individuals, and the appropriateness of using research evidence with certain patients. They also feared a move away from the 'art of medicine'. None of the GPs expressed a need for critical appraisal skills.

**Conclusions.** The Australian GPs in this study had mixed views about the increasing profile of evidence-based medicine, and the use of this paradigm in practice. Acceptability was more likely to be influenced by relevance to general practice and local contextual and patient factors than by the strength, or critical quality of the evidence.

**Keywords.** General practice, practice guidelines, qualitative.

## Introduction

Over the last 6 years there has been an exponential increase in the publication of medical literature on evidence-based medicine.<sup>1</sup> In Australia there have been calls for an increase in the practice of evidence-based medicine.<sup>2</sup>

A systematic review of the literature found few studies examining the attitudes of clinicians to evidence-based

medicine or the use of evidence-based medicine in practice.<sup>3</sup> Strong views have been expressed about the potential benefits<sup>4</sup> and problems<sup>5,6</sup> posed by evidence-based medicine. The lack of well-controlled studies documenting clinical outcomes meant that it was difficult to assess the validity of these opinions. In general practice, two major themes of criticism have been the lack of relevant research evidence in primary care and the failure of evidence-based medicine to take into account the complexity of the consultation.<sup>7,8</sup> A recent survey of 302 English GPs showed a positive attitude to evidence-based medicine, but a low level of use of evidence-based resources.<sup>9</sup> Greenhalgh has suggested that further qualitative research examining these issues is needed.<sup>10</sup>

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The aim of this study was to use evidence-based guidelines as a model to provide an exploration of (i) the attitudes of GPs in Australia to using evidence-based medicine in their consultations and (ii) their attitude to the explicit presentation of evidence within guidelines.

## Methods

A qualitative study was performed from November 1996–September 1997 using five semi-structured focus group interviews with a total of 27 GPs. The Royal Australian College of General Practitioners Research Ethics Committee approved the project. Purposeful sampling was used to recruit participants who were anticipated to be good informants on evidence-based medicine.<sup>11</sup> Group 1 consisted of six GPs recruited from a postgraduate course in Preventive Care at Monash University, Melbourne. Group 2 consisted of three GPs recruited from a postgraduate Diploma in General Practice in Adelaide and two of their practice colleagues. Group 3 consisted of five GP supervisors (trainers) recruited from the Adelaide Royal Australian College of General Practitioners' Training Program. Groups 4 and 5 consisted of 11 GPs in Darwin (population 70 000) sampled from the Darwin Urban Division of General Practice and known by the authors not to be involved in formal postgraduate study or academic practice. The groups were similar with respect to age and work-related interests.

The GPs were approached by letter. After agreeing to take part, the subjects were sent copies of the following pre-reading: The Australian National Health and Medical Research Councils' Clinical Practice Guidelines on the Management of Early Breast Cancer (the first Australian evidence-based guideline); the North of England Guidelines on Asthma; and the Canadian Preventive Task Force Guidelines on Screening for Chlamydia. The pre-reading highlighted the methodology of evidence-based guidelines, including an explanation of levels of evidence and explicit evidence-based decision-making.

These guidelines were used during the focus group interviews to explore evidence-based medicine. A single investigator (JM, experienced in small group process), facilitated the focus group interviews using predetermined probes to illicit attitudes, rather than to dictate direction of the discussions.<sup>12</sup> At the end of the focus groups (1.5 hours), the GPs were asked to complete a short questionnaire collecting demographic data and asked to state the extent to which they agreed or disagreed with the following statement on a five-point visual analogue scale:

“All guidelines should present the explicit presentation of evidence on which their recommendations are based.” [This was limited to a single

statement owing to time constraints on the focus groups.]

These semi-quantitative data were then analysed and used as a method of triangulation<sup>13</sup> to test the validity of the qualitative data analysis. The investigator was blind to this semi-quantitative data analysis during the qualitative data analysis.

Each focus group was recorded and transcribed verbatim. Data collection and analysis were guided by grounded theory methodology.<sup>14</sup> Transcriptions were analysed (JM) to identify concepts and these were grouped into categories. The analysis was a continuous iterative process, with earlier data re-examined and identified concepts explored in subsequent focus groups. The focus groups were continued until no new categories were generated. A summary of the results was sent to all participating GPs.

## Results

Results of the demographic data and response to the questionnaire on guidelines are shown in Tables 1 and 2. The relationships between the concepts and categories derived from the data analysis are shown in Figure 1 and illustrate the factors influencing the GPs' consideration and use of evidence within consultations.

Overall, the participants were positive about the explicit presentation of evidence within guidelines and the move towards evidence-based medicine. Throughout the focus groups, the attitudes of the GPs could be placed within two broad areas: (i) meeting information needs; and (ii) the context of general practice. The investigator's interpretation of the transcriptions was fed back to the participants for comment. None of the GPs disagreed with the results.

TABLE 1 Comparison of demographic data of GP participants with Australian GPs

	Participants number (%) (n = 27)	Australian Bureau of Statistics Survey 1994–1995 (16 379 GPs)
Male	19 (70%)	71%
Female	8 (30%)	29%
Age	Mean 43 Range (28–77)	Mean 45.7 Estimated from categorical data
Mean years in practice (range)	14 (1–54)	Not available
Group practice	18 (66%)	Not available
Overseas graduate	4 (15%)	25%
FRACGP	13 (48%)	33%

TABLE 2 Results of visual analogue scale the participants level of agreement with the statement: "All guidelines should present the explicit evidence on which they are based"

Score	Agree strongly	Agree	Neutral	Disagree	Disagree strongly	Undecided
No. of participants (%) (n = 27)	7 (26%)	10 (37%)	4 (15%)	4 (15%)	1 (4%)	1 (4%)

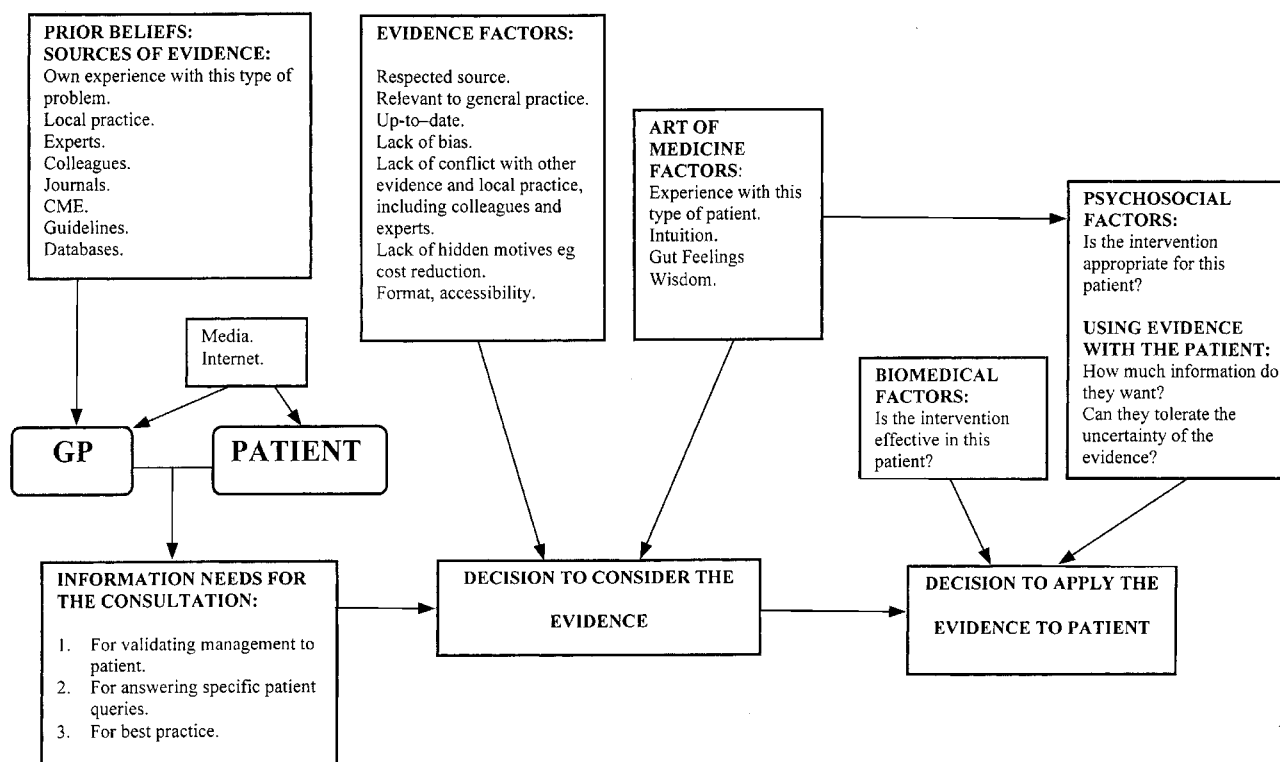


FIGURE 1 Model to show factors influencing consideration and use of evidence in general practice consultations (concepts and categories derived from focus group data analysis)

(1) Using evidence-based medicine to meet information needs (see Table 3)

**Information needs and validating patient management strategies.** The GPs stated that evidence-based guidelines were far more accessible than research articles as a guide for current best practice. Many stated that presenting levels of evidence highlighted areas that were important for them to know and to consider changing their practice. The GPs found the explicit presentation of evidence most useful for validating their management decisions to patients, and for answering specific patient queries (quote 3.14.55). Most felt that the graded levels of evidence allowed them to deviate from the recommendations where research evidence was less conclusive (quote 1.20.29).

**Source of evidence: trust and faith.** The source of the evidence was one of the most important factors influencing the GP. This was true of guidelines, journal articles and advice from experts. Trust depended on the

topic and the reputation of the source within the local GP community. Many expressed having "trust and faith" in guideline developers, local specialists and meta-analyses (quote 2.9.1). They stated that they did not trust evidence from pharmaceutical companies.

Interestingly, none of the GPs discussed the ability to critically appraise guidelines or whether the explicit presentation of the evidence was a quality by which they judged guidelines.

**Hidden motives behind the evidence.** The GPs were concerned with hidden political and economic motives behind evidence presented to them. They were frequently unable to tell if recommendations were based on effectiveness or cost-effectiveness (quote 2.6.25). Most felt that cost containment should be made explicit in guidelines. Furthermore, they also felt that guidelines had the potential to reduce clinical autonomy. Many feared punitive measures, (legal and financial), against those who deviated from guidelines.

TABLE 3 *Attitudes to evidence-based medicine and meeting information needs*


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3.14.55 3.5	We do need a lot of evidence-based medicine at our finger tips to discuss issues with patients, particularly with preventive health care and education. Sometimes we have to act as teachers as much as doctors, and if we've got a few pertinent figures to quote that helps enormously . . .
1.20.29 1.2	. . . And if you should happen to be aware of the evidence being poorer for certain types of management then you should probably include your reservations in any recommendation for management.
2.9.1 2.5	. . . if you've got the meta-analysis you sort of have a reasonable amount of faith that these guys have enough of an idea of how to conduct research and how to analyse and you say perhaps I can believe that.
2.6.25 2.5	And on the other side of things, there's the drug companies but there's also the government types, you know . . . If they're recommending amoxicillin for pneumonia, you don't know if they're doing it because it's a really good idea or because that's cheap, you know.
2.2.42 2.2	. . . if you just look at all the jolly coughs and colds that GPs see. I mean, whether you should use antibiotics in these sort of situations, I mean there's no sort of evidence for these sort of situations, whether you should use all these other sort of symptomatic relief things or whether you should use a cough suppressant or not?! Laughter . . .
5.14.17 5.4	Yes, I think there's two types of evidence; there's the evidence that you pick up from journals and books and lectures and compact disks and all that sort of thing and there's the evidence that you acquire from 15–20 years hands on experience with patients. I think however much you read or research what other people's experience is, your own experience in the long term is what guides you to make the decisions you make.
5.14.17 5.4	[is quote from transcription of focus group 5, page 14, line number 17, GP number 4.]

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*Attitudes to evidence: relevance to general practice.* The participants questioned the relevance of much of the research evidence included in guidelines, journals and other sources (quote 2.4.42). They stated that clinical trials were often far removed from their own practice. They were also concerned that those recommending different treatment strategies cited the same research evidence. However, none of the GPs stated that they would use the presentation of evidence to aid decision-making when faced with conflicting recommendations.

*Prior beliefs.* Several GPs emphasized that their own clinical experience might be more influential on their decision-making than research evidence (quote 5.14.17). Some were especially influenced by local specialist and hospital practice. If local practice and research evidence conflicted, the GPs would discuss the matter with colleagues and local specialists. None of the GPs stated that they would like to acquire more critical appraisal skills to assess the evidence themselves.

(2) *Attitudes to using evidence-based medicine within the context of general practice (see Table 4)*  
*Problems applying the evidence to patients in general practice.* All the GPs agreed that there were problems applying the evidence from guidelines or other sources to their individual patients (quote 4.25.4). Many were concerned that the exclusion of certain patients from clinical trials limited generalizability. The phrases “but in real life” and “in the real world” were often repeated.

Many stated that, within general practice, the psychosocial and contextual issues are so important that research evidence becomes irrelevant and the explicit presentation of evidence becomes unnecessary.

*Using evidence with patients.* Some of the GPs stated that they would be able to use the presentation of evidence, including levels of evidence, with their patients. Others felt patients would not be able to tolerate the uncertainty inherent in research evidence.

TABLE 4 *Attitudes to using evidence-based medicine in general practice*


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4.25.4 4.3	Evidence might be that if you've got breast cancer you do such and such, but some patients, for whatever reasons, it might be that they have some other illness or they're 90 or they've got religious reasons or . . . it doesn't matter what the evidence says, it's just not the right thing for that person.
3.10.34 3.2	In terms of the art of medicine, you can imagine how patients would feel if you said, “you've got such and such . . . now let's review the evidence,” and you completely ignore their feelings and everything else.
3.4	Putting on a comic pleading voice: “But I don't want to take the medicine.” Waving guideline: “But it's level 1 evidence” (laughter)
3.18.58 3.4	What we practice is too rich and too densely textured to be able to sort out a few threads and say that's evidence-based and pure science . . . you can do that . . . in a coronary care unit or somebody who is a physiological preparation in intensive care . . . You can't do that in their lounge room . . . you know, surrounded by cat's and dogs and wheezy children . . . (laughter) . . . You know it's not the same!
2.13.42 2.1	I think it's taking up more into this vein of science and more towards speciality (practice) um, not recognizing that there are things we don't have answers to and you just have to FEEL sometimes. (agreement)

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*Evidence and art.* Although the GPs had an overall positive attitude toward evidence-based medicine, some expressed concern that it was being promoted to the exclusion of other aspects of medicine (quote 3.10.34). Many of the more academic GPs contrasted 'the art of medicine' with evidence-based medicine, which they perceived as science (quotes 3.18.58, 2.13.42). They stated that evidence-based medicine emphasized quantitative research and placed less emphasis on the psychosocial context of medical practice that they felt was a core part of general practice.

## Discussion

### *Methodological considerations*

This study used evidence-based guidelines to explore Australian GPs' attitudes to evidence-based medicine and the explicit presentation of evidence within guidelines. The GPs were representative of Australian GPs for age and sex. However, when compared with all Australian GPs, the GPs in this study were more likely to hold the FRACGP qualification (48 versus 33%) and less likely to have qualified overseas (15 versus 25%).<sup>15</sup> Academic GPs were over-represented and this may have resulted in a greater emphasis in the results on the differences between general practice and other medical specialties, including the psychosocial aspects of the consultation. One may have thought that the over-representation of academic GPs would have a more positive attitude to evidence-based medicine, in particular in relation to clinical consultation and critical appraisal. Interestingly, this was not the case.

The focus group methodology was considered appropriate to identify the attitudes formed in response to medical group norms and rules of behaviour. Although the investigator who tried to ensure her own beliefs did not influence the study by using grounded theory methodology, bias is still possible. However, the data were checked for internal consistency and the results were fed back to the GPs for comment. Attempts were made to increase the reliability and validity by using systematic methods that compared and contrasted the data and identified extreme and negative cases.

While the visual analogue scale indicated support for the explicit presentation of evidence within guidelines, this method of triangulation may have lacked construct validity. It is possible that the explicit presentation of evidence is not associated with a positive attitude to other aspects of evidence-based medicine.

### *Attitudes to using evidence in the general practice consultation*

Evidence-based medicine involves defining the questions arising from the patient encounter, tracking down, critically appraising and applying the evidence to the patient, and evaluating the outcomes.<sup>16</sup> Despite an

overall positive attitude toward evidence-based medicine, the GPs participating in this study did not raise the issue of acquiring the skills of critical appraisal. A survey of 302 English GPs also found that acquiring skills in critical appraisal for evidence-based medicine was the least favoured method of moving from opinion-based medicine to evidence-based medicine. Guidelines were the most favoured approach.<sup>9</sup> This suggests that a move away from a critical appraisal model of evidence-based medicine towards a model based on providing evidence-based clinical summaries may be appropriate. Smith has put forward a potential list of evidence-based resources to meet the information needs of clinicians and suggested areas for further research.<sup>17</sup>

The proponents of evidence-based medicine have stated that "evidence-based medicine means integrating individual clinical expertise with the best available external evidence".<sup>16</sup> For some of the GPs in this study, prior experience was considered to be of greater importance than external research evidence. Sullivan and MacNaughton have described this process of weighting of the different sources of evidence available to the GP.<sup>8</sup> The prior beliefs of GPs appear to be important, and this suggests that recommendations to change practice should take these beliefs into account.

Although the GPs accepted that new evidence could guide their practice, they appeared to be more interested in using evidence to reassure patients and answer any queries they might have. The needs and roles of patients have not been emphasized in the evidence-based medicine literature. However, Gorman found that patients' expectations of the GP to know the answer was a significant determinant of information-seeking by GPs.<sup>18</sup>

The source was also regarded as important when considering the credibility of the evidence. This has also been found in other studies on guidelines in general practice in Australia.<sup>19</sup> However, when faced with recommendations that conflict with their own prior beliefs, the GPs stated that they would discuss the evidence with colleagues and local hospital specialists. This suggests that it is important to ensure that sources of information considered credible by GPs should be evidence-based. Smith has reviewed the numerous studies that have shown that clinicians most frequently meet their information needs by talking with other clinicians and has suggested that the psychological support and affirmation involved in these social interactions may be important.<sup>17</sup> Systematic reviews have also shown that interventions involving social interaction may be more effective in changing physician behaviour than those without.<sup>20,21</sup> The external validity of research evidence for general practice was also seen as problematic.

The GPs were very concerned with the difficulties of using the evidence while taking into account the psychosocial context of a patient's problem. These concerns have been raised previously.<sup>5,7</sup> GPs' core intervention is management of the whole person and the use of research

evidence is only a small part in their complex decision-making.

The participants also perceived that the move towards evidence-based medicine was a move away from the art of medicine. Although similar statements have been made in the medical literature criticizing evidence-based medicine,<sup>7,22</sup> the failure to reach a common definition of the 'art of medicine' makes it impossible to examine this issue in any detail.

Dowie has recently presented a provocative argument that only a "decision analysis approach" is capable of solving these types of problems.<sup>23</sup> However, a recent case study using decision analysis to apply evidence-based medicine in general practice described how a well-designed published decision analysis failed to take into account all the complex personal and cultural issues that were important to the GP and patient.<sup>24</sup>

## Conclusions

The model proposed in Figure 1 is consistent with how the GPs in this study decide to consider and use evidence within their consultation. Although they were positive about evidence-based guidelines, they also possessed a large amount of information obtained from other sources. The need to review the evidence appears to be likely to be driven by the needs of the patient. GPs do not appear to be interested in critically appraising the literature themselves. Finally, the decision about whether to use the evidence is greatly influenced by the psychosocial issues of the consultation.

This model illustrates that GPs can be positive about evidence-based medicine without necessarily using it within their consultations. Ironically, the uptake of evidence-based recommendations may be better facilitated by the opinion of colleagues and local experts than published level 1 evidence (randomized controlled trials). Further research is needed to understand the meaning of evidence in general practice and to elucidate the intricacies of GPs' decision-making.

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