

**GUIDELINES IN PRIMARY CARE:  
AN INVESTIGATION OF GENERAL PRACTITIONERS'  
ATTITUDES AND BEHAVIOUR  
TOWARDS CLINICAL GUIDELINES**

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A dissertation submitted in partial fulfilment of the requirements for the degree of  
Master of Medical Science in Primary Health Care  
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July 1995

## SUMMARY

**Background.** Little is known about the attitudes and behaviour of British general practitioners towards clinical guidelines.

**Aim.** To investigate the beliefs, attitudes and behaviour of general practitioners towards clinical guidelines.

**Method.** A postal questionnaire sent to all 326 general practitioner principals on the list of Lincolnshire Family Health Services Authority in 1994.

**Results.** Of the 326 general practitioners sent questionnaires 213 (65.3%) replied. Most respondents (78.4%) had written, or participated in writing, practice-based guidelines. An even greater proportion (92.0%) had participated in clinical audit. The majority of respondents felt that guidelines were effective in improving care (68.5%). Members (and fellows) of the Royal College of General Practitioners had a more positive attitude towards guidelines. They were significantly more likely to have written in-house guidelines as were those who had participated in audit. There was no evidence of change in attitude after participating in an inter-practice audit.

**Conclusions.** Practice-based guidelines are widely used in Lincolnshire. This use is largely sustained by positive beliefs about their effectiveness and benefits. Practitioners were ambivalent about the use of guidelines for setting performance-related pay and their effect on professional status. They were concerned that guidelines should be scientifically valid and valued local "ownership" of guidelines. The positive attitude of its members supports the college in its continuing role in developing guidelines in primary care. Incorporation into clinical audit may also be an effective way of disseminating systematic research-based guidelines.

## CONTENTS

<b>LIST OF TABLES</b>	<b>iv</b>
<b>LIST OF FIGURES</b>	<b>v</b>
<b>INTRODUCTION</b>	<b>1</b>
<b>ATTITUDES TO CLINICAL GUIDELINES: LITERATURE REVIEW</b>	<b>3</b>
<i>A review of the literature</i>	3
<i>Terminology</i>	3
<i>The development of guidelines in the United Kingdom</i>	4
<i>The Dutch experience</i>	5
<i>Attitudes to guidelines in North America</i>	6
<i>Views of British general practitioners</i>	7
<i>Effectiveness of guidelines</i>	9
<i>Scientific basis and validity</i>	10
<i>Innovation and development</i>	12
<i>Clinical freedom</i>	12
<i>'Top down' (expert or national) versus 'bottom up' (practice-based or local) guidelines and the issue of 'ownership'</i>	13
<i>Patients as individuals</i>	14
<i>Litigation</i>	15
<i>Implementation</i>	15
<i>Performance-related pay and financial incentives</i>	16
<i>Political overtones</i>	17
<i>Summary</i>	18
<b>METHODOLOGY</b>	<b>20</b>
<i>Setting</i>	20
<i>Questionnaire</i>	20
<i>Pilot study</i>	23
<i>Reliability</i>	23
<i>Validity</i>	24
<i>Questionnaire refinement</i>	25
<i>Main study</i>	26
<i>Statistical analysis</i>	26
<b>PILOT STUDY</b>	<b>28</b>
<i>Reliability</i>	28

Validity	29
<b>RESULTS</b>	<b>35</b>
Main survey	35
Comparison of respondents with all Lincolnshire general practitioners	36
Questionnaire reliability	38
Questionnaire validity	43
Use of practice guidelines	52
Attitudes to practice guidelines	52
Guidelines and membership of the Royal College of General Practitioners	55
Guidelines and general practice trainers	58
Comments	59
The effect of participating in an inter-practice diabetic audit on attitudes towards guidelines	63
<b>DISCUSSION</b>	<b>67</b>
Limitations of the study	67
Current use of guidelines	68
Attitudes to guidelines	69
Role of membership of the Royal College of General Practitioners	69
The relationship between guidelines and medical audit	70
Medical science versus clinical art	71
Control within the doctor-patient relationship	73
Future research	74
<b>CONCLUSIONS</b>	<b>75</b>
<b>ACKNOWLEDGEMENTS</b>	<b>76</b>
<b>REFERENCES</b>	<b>77</b>
<b>APPENDICES</b>	
Appendix 1: Aims	84
Appendix 2: Letter for pilot questionnaire	85
Appendix 3: Pilot questionnaire	86
Appendix 4: Letter for main survey	88
Appendix 5: Main survey questionnaire	89
Appendix 6: Letter to non-responders	91
Appendix 7: Feedback to pilot study responders	92
Appendix 8: Letter for follow-up questionnaire	95
Appendix 9: Follow-up (repeat) questionnaire after inter-practice audits	96
Appendix 10: Publications	98

## LIST OF TABLES

Table 1 Item total statistics for pilot questionnaire	29
Table 2 Comments to pilot questionnaire	30
Table 3 Responses to pilot questionnaire comparing general practitioners who had written guidelines with those who had not.	32
Table 4 Characteristics of general practitioners responding to the guidelines questionnaire	35
Table 5 Age distribution of respondents compared with all Lincolnshire general practitioners	36
Table 6 Sex distribution of respondents compared with all Lincolnshire general practitioners	36
Table 7 Comparison of partnership size of respondents with all general practitioners in Lincolnshire	37
Table 8 Correlation matrix for attitude statements	41
Table 9 Covariance matrix for responses to attitude statements	42
Table 10 Item-total statistics for main study	43
Table 11 Paired statements on attitudes to guidelines in questionnaire showing responses (%),and mean scores.	45
Table 12 Responses to questionnaire comparing members of the Royal College of General Practitioners with non-members.	57
Table 13 Comments to the guidelines questionnaire	60
Table 14 Sample statistics for control group before (CGBEF) and after (CGAFT) inter-practice audit and study group before (SGBEF) and after (SGAFT) inter-practice audit	64
Table 15 Non-parametric tests comparing study and control groups	66

## LIST OF FIGURES

<b>Figure 1</b> What the papers say - headlines in the popular medical press	<b>8</b>
<b>Figure 2</b> Attitude statements	<b>22</b>
<b>Figure 3</b> Schematic representation of study design	<b>27</b>
<b>Figure 4</b> Graphs showing responses to attitude statement pairs on effectiveness and clinical freedom	<b>47</b>
<b>Figure 5</b> Graphs showing responses to attitude statement pairs on innovation and patients as individuals	<b>48</b>
<b>Figure 6</b> Graphs showing responses to attitude statement pairs on litigation and ‘top down’ versus ‘bottom up’ guidelines	<b>49</b>
<b>Figure 7</b> Graphs showing responses to attitude statement pairs on scientific basis and implementation	<b>50</b>
<b>Figure 8</b> Graphs showing responses to attitude statement pairs on performance-related pay and the political implications of guidelines	<b>51</b>
<b>Figure 9</b> Effect of general practitioner characteristics on writing practice guidelines	<b>53</b>
<b>Figure 10</b> Total attitude scores in study and control groups before and after inter-practice audit	<b>63</b>

## **INTRODUCTION**

Clinical practice guidelines are 'systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances' (Effective Health Care 1994). Since the Royal College of General Practitioners (RCGP) launched its quality initiative (RCGP 1983) over ten years ago there has been an increasing trend to develop guidelines for use in primary care. The proliferation of guidelines which began across the Atlantic has spread to the United Kingdom in the past decade. In the United States, for example, Buchan (1993) quotes 1200 guidelines originating from 45 different organisations and others estimate over 20,000 guidelines in circulation (Leone 1993). The United Kingdom is not far behind, spurred on by the health reforms and pressure from both outside and within the profession (Farmer 1991). The main aim of guidelines is to improve the practice and outcome of medical care by reducing inappropriate variations in practice. Guidelines have been closely associated with performance review, clinical audit and the burgeoning quality culture of the National Health Service (NHS Management Executive 1993a). The importance of guidelines in the quality agenda is underlined by the recent report from the Clinical Guidelines Working Party of the Royal College of General Practitioners (RCGP 1995).

The central role of guidelines in the quality cycle may be undermined by doctors' beliefs and behaviour towards them. General practitioners sometimes fail to follow established guidelines (Moher and Johnson 1994) despite increasing evidence that they improve clinical practice (Grimshaw and Russell 1993). In one analysis of compliance with guidelines from the United States (Grilli and Lomas 1994) the mean

compliance rate with 143 recommendations was 54.5% (95% confidence interval: 50.2%-58.9%). It has been said that it is “easier to write guidelines than to implement them” (Haines and Feder 1992) and this is partly because of factors that determine behaviour change such as a doctor’s attitudes (Kanouse and Jacoby 1988).

When he looked at the attitudes of Dutch general practitioners on the college of general practitioners national standards for care, Grol (1990) found a generally positive attitude but he also encountered concerns about compulsory adoption, external regulation and the potential for abuse of guidelines. He subsequently cited a doctor's personal characteristics including competence, motivation and *attitudes* as important potential barriers to their effective uptake of guidelines (Grol 1993). In the United States doctors have had a longer and reportedly less happy relationship with guidelines (Farmer 1993). In a recent questionnaire survey of internists, most thought that guidelines would improve the quality of care (70%) but some felt that they would increase costs (43%), make practice less satisfying (34%) or be used to discipline physicians (68%) (Tunis et al. 1994).

Although there has been much editorial comment here, both positive and negative on this subject, this may have been largely based on the experience of guidelines in North America and the Netherlands. Little is known about the use of clinical guidelines and attitudes towards them in British primary care. I carried out this study firstly to investigate current beliefs, attitudes and practise of family doctors in Lincolnshire in relation to guidelines and secondly to determine whether participation in medical audit would change practitioners’ attitudes towards guidelines.

## **ATTITUDES TO CLINICAL GUIDELINES: LITERATURE REVIEW**

### **A review of the literature**

The articles for this review came from a range of sources including:

1. Computerised searches of MEDLINE from 1976 to 1995 using the search terms 'clinical practice guidelines', 'guidelines', 'standards' and 'protocols';
2. Current articles and letters from the British Medical Journal, British Journal of General Practice, and the Lancet;
3. Citations in the articles found above;
4. Citations provided by my supervisor and other colleagues.

### **Terminology**

The terminology of guidelines and medical audit can be confusing even though the underlying principles are usually relatively straightforward. *Medical audit* is “the systematic critical analysis of the quality of medical care with the aim of improving care through the feedback of performance” (Baker 1988). *Criteria* are “the elements of care that can be counted or measured in order to assess quality; when clearly stated beforehand they are considered explicit, otherwise they are implicit” (Donabedian 1982). *Standards* are “the precise count or quantity (of criteria) that specify an acceptable level of care” (Donabedian 1980). *Guidelines* or clinical practice guidelines are “systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances” (Effective Health Care 1994). Although guidelines are sometimes used as a generic term for practice management policies, McDonald and Overhage (1994) suggest that they should be restricted to *rules* about when to initiate or avoid medical interventions such

as treatments or tests. In this regard they should tell you what to do and be demonstrably valid. The same authors also identify the term *bounding rule* for what should be done at the very least or the very most. For example, “patients with congestive cardiac failure should be treated with an angiotensin converting enzyme inhibitor”. They have also been differentiated by Eddy (1990) into *standards* or strict rules to be applied in all cases (not to be confused with standards as used in the context of medical audit), *guidelines* which can be followed in most cases but should be adapted to suit individual needs and *options* that are different routes of treatment that are equally acceptable leaving patients with their doctors to decide the most acceptable course of action for them. Perhaps *protocol* would be a better and less confusing term instead of standard as used above. *Algorithms*, like options, identify alternative courses of action depending on the clinical situation. Other terms such as decision rules, treatment standards, treatment recommendations and practice parameters have been used as synonyms for the above.

### **The development of guidelines in the United Kingdom**

In the decade since the Royal College of General Practitioners launched its quality initiative the quality agenda has moved towards encompassing performance review and medical audit, criteria and standard setting, and the development of guidelines (Irvine 1990). Various agencies including academic, government and charitable bodies have been involved in this process and guidelines have been formulated to encompass a huge range of clinical problems ranging from hypertension (Sever et al. 1993) to hearing aids (Gatehouse 1994). Although there is little information about the extent of use or content of clinical guidelines in British primary care, one national

survey of a random sample of general practitioners exploring attitudes towards practice nurses found that 28% used protocols for a wide range of conditions and 62% used them for a few specified conditions in their practices. Members of the RCGP, general practice trainers, group practices (i.e. non single-handers) and non-urban practices were more likely to use protocols (Robinson et al. 1993).

### **The Dutch experience**

The Dutch college of General Practitioners (Nederlands Huisartsen Genootschap) instituted a programme of guideline development in the 1980s. Guidelines were written and evaluated solely by general practitioners and used as an educational tool as well as a benchmark for quality assurance. Forty such guidelines had been published up to 1993 (Thomas 1993). Grol (1990) found a generally positive attitude towards guidelines amongst Dutch family physicians in that 80% of respondents to his survey endorsed national standards for primary care. Nevertheless, he also encountered significant reservations. In particular, over a half of practitioners (56%) questioned felt that adoption of guidelines should not be compulsory and a quarter feared future abuse of guidelines by government, insurance companies or patients. College members were found to be better informed and more positive in their attitude towards these guidelines. Attitudes did not vary with medical experience, involvement in education, practice location (urban or rural), or audit activity. The ambivalent attitude towards guidelines in the Netherlands was seen by Thomas (1994) as the conflict between greater professionalism through adopting guidelines and loss of clinical autonomy.

### **Attitudes to guidelines in North America**

The American College of Physicians also conceived a programme for guideline development in the early 1980s as an educational process (Schwartz and Ball 1982) and there followed similar developments in Canada. Farmer (1993), in tracing the subsequent evolution of guidelines in the United States, felt that the real impetus came from those involved in administering the Medicaid and Medicare budget to control costs and regulate the medical profession. Guidelines began to be used for quality assurance and some health maintenance organisations were quick to see their usefulness in promoting a uniform response to the management of common medical problems. In some states, notably Massachusetts and Maine, guidelines were also employed to reduce the risk and costs of litigation. Some guidelines even had the endorsement of legislation, for example in Maine, where adhering to a guideline was seen as evidence of competence in law and indemnity insurance fell as a result. In a questionnaire survey of 2513 internists (with a response rate of 1513 or 60%) most responders thought that guidelines would improve quality of care (70%) but many thought that they would be used to discipline physicians (68%), increase costs (43%) and make practice less satisfying (34%) (Tunis et al. 1994). Doctors were more positive towards guidelines issued by professional organisations compared with those from insurance companies even though the contents were identical. Recent graduates, those seeing patients for less than twenty hours a week and doctors on a fixed salary were more positive in their attitude. Editorial epithets when referring to guidelines including “curse or cure” (Dracup 1993) and “promise or panacea” (Wall 1993) demonstrate the ambivalence of the American medical establishment to guidelines. The use of guidelines to regulate the medical profession, contain costs and reduce

litigation which gave rise to ambivalent or frankly negative attitudes across the Atlantic (Dans 1994) may have had a knock-on effect here in the United Kingdom.

### **Views of British general practitioners**

From a review of the literature it appears that there may also be widely differing attitudes towards clinical guidelines in this country (Delamothe 1993). As in the Netherlands and United States there appears to be a degree of ambivalence in the attitudes that are expressed. Many of the negative attitudes and some of the debate has been expressed in the popular (free) medical press over the past two years where guidelines or protocols have been variously described as irrelevant, taking over from 'doctoring', encouraging conformity or simply stifling (*see Figure 1*). These feelings may have arisen from experience of guidelines abroad, as reported in British journals and the medical press, rather than in this country. There is no doubt that the adverse headlines make better journalistic copy but there is little evidence that they reflect the views of the majority of family doctors. A small survey of ninety general practitioners in Liverpool was reported by Onion and Walley (1995). They found that most (86%) general practitioners anticipated improvements in medical practice from using guidelines, 60% felt safer using them, 59% used them currently and 72% intended using them more in the future.

**Figure 1 What the papers say - headlines in the popular medical press**

Guidelines are often irrelevant to GPs (Legge 1993).

Protocols are taking over from doctoring (Fox 1994).

This GP will not conform (Thistlethwaite 1994).

Will disease protocols stifle GPs (Dinsdale 1994) ?

Is practice protocol worth the paper it's written on (Cormack 1995) ?

Protocols can be problematic (Knott 1995).

Doctors split by move towards harmony (Hagan 1995a).

Leaders warn of trial by guidelines (Hagan 1995b).

Scuppered by a lack of street credibility (Andrews 1995).

You can't please all doctors all the time (McKee 1995).

Whatever happened to clinical judgement (Stone 1995) ?

These attitudes, both positive and negative, may be considered under the following broad categories:

- 1) Effectiveness
- 2) Scientific basis and validity
- 3) Innovation and development
- 4) Clinical freedom
- 5) 'Top down' (expert or national) versus 'bottom up' (local) guidelines and the issue of ownership
- 6) Patients as individuals
- 7) Litigation
- 8) Implementation
- 9) Performance-related pay and financial incentives
- 10) Political overtones

There follows a discussion of attitudes to guidelines based on the literature on this subject from the United Kingdom, Europe and North America in both primary and secondary care. I have included as many sources as possible so as to gain a depth and breadth of views.

### **Effectiveness of guidelines**

The stated aim of most guidelines is to improve the quality of patient care. What evidence is there that this is achieved? Grimshaw and Russell (1993) looked at 59 published evaluations of clinical guidelines, which met their criteria for scientific

rigour, and found that overall they did improve care although the extent of this improvement was variable. Guidelines have improved the process of management of particular conditions in general practice (Emslie et al. 1993). Guidelines have also been said anecdotally to be effective at national (Hemming and Mashford 1993) as well as local levels (McNicol et al. 1993). On the other hand, Woolf (1993) and others have commented that guidelines may actually harm patients by encouraging treatments of poor scientific validity, limiting individual care, increasing costs and sanctioning doctors who fail to adhere to them.

Cost and cost-effectiveness are another aspect of effectiveness. One view is that by curbing unnecessary interventions costs may be reduced. This has been particularly true of the US (Shapiro et al. 1993, Tingley 1993, Clinton et al. 1994). Several organisations in the US felt that cost control was a secondary goal of guidelines (Audet et al. 1990) but internists, in a recent survey, felt that implementing guidelines could actually increase costs (Tunis 1994). Ministers here have also seen guidelines as a means of reducing costs by eliminating ineffective care (Secretary of State for Health 1993). McColl (1993) states that there is little evidence that guideline based care will limit costs or is cost-effective.

### **Scientific basis and validity**

Progress in medicine and the explosion in medical research mean that many doctors in both hospital and primary care struggle to assimilate the advances. Guidelines may be a way of rapidly disseminating this new information (Brook 1989, Haines and Jones 1994). However, many commentators feel that guidelines should be of proven validity, based on sound scientific data or demonstrated in clinical trials (McDonald

and Overhage 1994).

The concern is that many guidelines are not based on sound research (Delamothe 1993) and indeed some may be far from scientific (Smith 1994). Attention has recently focused on the use of flawed observational data by patient outcomes research teams (PORTs) as the basis for guidelines in the United States (Sheldon 1994). Others have commented that the selection of participants for consensus conferences, particularly in North America, may be biased towards individuals with similar views (Skrabanek 1990, Anonymous 1992) or that compromise rather than true consensus is the result. Skrabanek and McCormick (1992) scathingly dismiss the consensus method, based on majority opinion rather than scientific evidence, as the “fallacy of the golden mean”. Their “golden mean” describes consensus through compromise that has no scientific meaning or worth.

The Canadian Task Force on prevention (Battista 1993) has graded the quality of evidence according to the following scheme:

- I: Evidence from at least one properly randomised controlled trial.
- II-1: Evidence from cohort and case control studies.
- II-2: Evidence from quasi-experimental studies or from exceptionally convincing uncontrolled experiments.
- III: Opinions of respected experts.

Haynes (1993) explains the route from scientific evidence to practice guidelines as a three stage process. Firstly getting the correct evidence, secondly developing a guideline that encompasses both the evidence and the clinical and personal

circumstances of the patient and finally “applying the guidelines to the right patient at the right time in the right way”. Despite the vast output of medical literature there still exist huge areas of ignorance and best practice has sometimes to be guided by the limited available evidence.

### **Innovation and development**

Patients are often subjected to large variations in medical advice and practice and a case has been made here (Wilkin and Smith 1987) and in the United States (Chassin et al. 1986, Wenneberg et al. 1987) that variations are often due to differences in the behaviour of doctors rather than demand from patients. The Harvard Community Health Plan, a health maintenance organisation, used guidelines to encourage greater uniformity (Farmer 1993). By making current practice explicit, guidelines may foster better practice and help disseminate new ideas into surgeries and hospitals (McNichol 1992). It may also encourage research in areas of uncertainty, highlighted by guidelines. The negative view is that, by stating and promoting ‘best practice’ and therefore discouraging alternatives to this, guidelines may stifle innovation (Farmer 1991, Anonymous 1992, Delamothe 1993) and reduce the scope for experimentation and change (Brook 1989).

### **Clinical freedom**

The issue of clinical freedom seems to lie at the heart of the debate about guidelines. Hampton (1983) stated that “clinical freedom is dead, and no one need regret it’s passing”. His view was that treatment should be limited to what was of proven value

given the increasing demands on health care resources. In a setting of ever changing fashions in cardiac therapy, many of which were found later to be of dubious value following properly conducted studies, he argued that clinical freedom was “at best a cloak for ignorance and at worst an excuse for quackery”. Over a decade later the pendulum may have begun to swing the other way, with developments in primary care and the growth of consumerism, with the emphasis on the patient rather than the disease. Despite the vast growth in medical knowledge, there is also a greater understanding and acceptance of uncertainty (Seedhouse 1991) where such knowledge is lacking, and doubts about the attempts of those who produce guidelines to oversimplify the complex. Partly because of this, there have been calls for a greater value to be placed on judgement in medicine (McCormick 1994) and judgement in this context seems to be synonymous with autonomy. There seems to be a delicate balance between autonomy and accountability in medicine (Bunker 1994).

**'Top down' (expert or national) versus 'bottom up' (practice-based or local) guidelines and the issue of 'ownership'**

Many guidelines have been written at a national or even international level. The advantages of a 'top down' approach is that experts can be involved, the considerable costs and time for the process can be catered for more easily, and subsequently the guidelines produced may be adapted to take account of local needs and resources (Smith 1991). A criticism of this, the consensus conference approach, is that it may have a limited effect in changing doctors' behaviour (Kosecoff et al. 1987, Lomas et al. 1989) This may be partly to do with inappropriately strong conclusions in some of the resulting guidelines (Jacoby 1988) but also due to a lack of 'ownership'. This is a

term used to describe an individual's sense of contribution to and responsibility for an activity that thereby improves the level of commitment to and participation in the activity. The alternative 'bottom up' or decentralised approach may better reflect the realities of general practice (Marinker 1990) and therefore improve 'ownership' and acceptance. It may be hampered by constraints of time and resources (Feder and Haines 1992) and thereby give rise to poorly researched guidelines (Grol 1993).

### **Patients as individuals**

Target setting or standards of care in guidelines against which performance may be measured are sometimes equated with 'standard care' or identical care for each patient (Pendleton et al. 1986). The application of a guideline to a patient may depend on the speciality of the doctor, the accuracy of the diagnosis and other morbidity, physical, psychological or social affecting the patient. General practitioners have always valued their personal knowledge of patients in helping to manage their illness and there is evidence that this understanding of individual patients improves diagnosis and treatment (Nazareth and King 1993). Patients may not fit neatly into a particular guideline (Calman 1992) as guidelines cannot incorporate every patient or the tacit knowledge of the general practitioner about the patient or their condition. The patient may also influence uptake of guidelines by accepting or rejecting the advice contained therein (Jones et al. 1993). Further difficulties arise when more than one guideline exists for the management of a particular condition (Smith 1993), particularly when they are conflicting (Rossor et al. 1993). Charlton (1994) felt that guidelines should be used pragmatically to inform rather than dictate clinical practice and many others promoting guidelines emphasise that they should be used flexibly rather than being

rigidly applied to patients.

### **Litigation**

Attitudes to the potential effect of guidelines on medical litigation provides another interesting paradox that was succinctly expressed in the title of an editorial “weapons for patients, or shields for MDs?” by Gilmore (1993). In the United States certain guidelines have been devised to reduce the risk of litigation and the cost of medical indemnity (Farmer 1993, Burroughs 1994). In this country, but also to some extent in the US, the fear is that guidelines, because they purport to represent best practice, will encourage a patient to sue if the doctor deviates from them (Harvey and Roberts 1987, Skrabanek 1990, Delamothe 1993, Schossow 1993) or at least provide evidence in the patient’s favour (Dimond 1994). Also must be considered the effect of Crown indemnity introduced in 1990. Because hospital trusts and district management units are financially responsible for compensation for medical negligence, which currently costs £75m a year there is a clear economic incentive for them to monitor and regulate quality of care (Miller and Harrison 1993). So-called clinical risk management (NHS Management Executive 1993b) may include the use of clinical guidelines (Mant and Gatherer 1994).

### **Implementation**

Implementation of a guideline is more likely if doctors are aware of it, understand its content, have a positive *attitude* towards the guideline and once it is employed see a positive outcome (Grol 1992). Decision rules have been shown to be an effective method of changing the behaviour of medical students and general practitioner trainees (Essex and Healy 1993). Doctors in training are likely to have a more positive

attitude towards such devices in the context of education and training. Guidelines for referral by general practitioners for radiographic examination were found to influence referrals, at least in the short term (Oakeshott et al. 1994). A controlled study of the effect of written standards for care on the behaviour of medical residents found that those whose practice deviated most from the guidelines were least likely to change as a result of reading them. Guidelines in this case were more likely to reinforce previous behaviour that conformed with the guideline than change behaviour which differed from it (Cohen et al. 1985). In another study (Rossor and Palmer 1993), 78% of Canadian general practitioners stated that they followed a particular guideline whereas closer questioning revealed that only 5% actually did so. Because health care is often delivered by more than one professional, team working and the use of multidisciplinary guidelines may be the most effective way of bringing about change if it was not for 'professional barriers' (McNichol et al. 1993). Increased familiarity through the use of computerised guidelines employed interactively during a consultation has been suggested as another way of improving implementation (Purves et al. 1992). Financial incentives may also encourage implementation (Dans 1994). Reminders, using checklists as well as information technology also help promote compliance (Lilford et al. 1992, Wiengarten et al. 1994). Factors such as poor knowledge, negative attitudes, lack of teamwork, deficient systems to incorporate information from guidelines and a lack of incentives or reminders would tend to hinder the implementation of guidelines. Some fear that guidelines will reduce choice in patient care or lead to "cookbook medicine" that will appear to devalue the role of the doctor (Delamothe 1993) and prevent their implementation.

### **Performance-related pay and financial incentives**

National guidelines and standards for cervical cytology and immunisation with payments for achieving targets has been one of the successes of the new contract (Department of Health 1989), despite previous scepticism about financial inducements as a means for influencing general practitioners' behaviour (Horder et al. 1986). The problem of poor compliance with guidelines has led others to advocate financial incentives to increase their uptake (Lomas et al. 1989). The suggestion that failure to follow guidelines should result in refusal of reimbursement (Brook 1989) may be a cause for concern amongst doctors. Questions then also arise as to who should set standards for performance related pay and at what level the standard should be set to allow practices who fell short of it to feel it was worth attaining (Baker 1988).

### **Political overtones**

Contracts from purchasers may prove to be a powerful inducement for providers to adopt clinical guidelines as has happened in the United States (Delamothe 1993, Buchan 1993). To some doctors guidelines produce the spectre of external audit, quality control and regulation. There are others who feel that in the long run this assault on professional power may make medicine a less attractive prospect and discourage potential doctors (Fletcher et al. 1990). The Department of Health describes the situation euphemistically in terms of guidelines 'informing' the contracting process (Department of Health 1994) but analysts have argued that the uncertainties and complexity of health care limit their use in purchasing (McKee and Clarke 1995). General practitioners have expressed fear for their status as independent contractors in the power struggle for control of clinical guidelines (Charlton 1994). Also just over the political horizon is reaccreditation of general practitioners, where

adherence to guidelines may be used as a marker of professionalism and quality of care but, where the conflict between clinical freedom and clinical discipline is likely to be at its greatest (Southgate 1994).

### **Summary**

There appears, from a review of the literature, to be equivocation from the profession on the merits of clinical guidelines.

On the one hand there are the proponents of clinical guidelines who see them as improving patient care and outcomes. By reducing ineffective and wasteful practice they will also reduce costs and improve cost-effectiveness. By incorporating up to date scientific evidence, best practice will be extended to the greatest number. They can be modified to take account of advances in diagnosis or therapy. Clinical freedom can continue to be exercised within guidelines by allowing practitioners to adapt them to suit local needs and resources and to use them flexibly for individual patients. They will reduce litigation by making the decisions of the doctor explicit in any particular clinical situation so that for doctor and patient alike there is no argument about what should be done. The implementation of these guidelines can be facilitated by using information technology and encouraged by performance-related pay. Finally the patient, who through taxation and government has to pay for health care, will have a mechanism for controlling the quality of care that is being provided.

The critics of guidelines see no evidence for an improvement in outcome by adopting

guidelines. Instead of reducing costs they have the potential to increase them. Because of gaps in medical knowledge and flaws in their development, guidelines are often founded on unscientific compromise instead of real scientific evidence. Guidelines will be promulgated by academics, scientists and all except the general practitioner who will be required to adopt them. They will stifle innovation and purge creativity and change. Patients will be pigeon-holed and delivered standardised care; subjectivity, tacit knowledge and intuition, part of the general practitioner's tools of the trade, will be scrapped. The family doctor will expose himself to litigation if he deviates from the 'cookbook' care that is embodied in the guideline as best practice. Guidelines will be implemented using methods which reduce the practitioner to an automaton and demean their self esteem as well as their professional standing in the eyes of their patients and even society at large. They will be penalised through remuneration and reaccreditation for failure to espouse guidelines.

The guideline movement has a parallel in the development of industrialisation in Western society (White Heat BBC2 1994). By encouraging repeatability, eliminating uncertainty, and making patients and physicians a passive instrument of guidelines, systems and technology they will be subject to greater control, less variability and improved efficiency. But at what cost?

The purpose of this study is to examine attitudes to guidelines in British general practice and explore one possible way of influencing attitudes.

## **METHODOLOGY**

### **Setting**

This study was carried out in Lincolnshire. This is a large county comprising both rural and urban areas. General practitioners in Lincolnshire, as elsewhere, have been encouraged to use guidelines for preventive health care and the care of certain chronic diseases, such as diabetes and asthma as part of the 1990 contract for general practitioners (Department of Health 1989). The Lincolnshire Medical Audit Advisory Group (MAAG), an independent body for encouraging, monitoring and administering medical audit, funded by government through the Family Health Services Authority has been in existence since 1990. As an 'audit ambassador' working with the MAAG I had the opportunity to visit general practitioners and discuss issues pertaining to medical audit and guidelines. At the time of the study there were 325 general practitioners in the county. They were identified from the medical list of Lincolnshire Family Health Services Authority (FHSA), subsequently Lincolnshire Health.

### **Questionnaire**

A self-administered postal questionnaire was used as the instrument for measuring attitudes and gathering other data for this study. This consisted of a two page questionnaire and an accompanying letter (*Appendices*). The covering letter defined clinical guidelines and gave some background to the study whilst trying to maintain neutrality towards guidelines. An addressed envelope was included for the completed questionnaire to be returned to Lincolnshire MAAG on completion. A deadline for return of the questionnaires was given. Questionnaires were identified by a code

number at the top right hand corner to enable follow up of non-responders. The questionnaire was devised using published guidelines (Stone 1993, Lydeard 1991).

The first part of the questionnaire comprised a series of statements reflecting attitudes about clinical guidelines. The attitudinal statements were derived from the ten dimensions or areas of concern identified from the literature review. They included underlying beliefs (cognitive), feelings (emotional) and resultant behaviour (action tendency) and were developed using recognised techniques described in detail elsewhere (Proctor 1993, Oppenheim 1966). The same issues were identified during unstructured informal interviews with general practitioners during my visits as an 'audit ambassador' (*see Figure 2*). Because respondents are more likely to reply in the affirmative (Martin 1964), paired statements were employed expressing opposite attitudes, i.e. a 'balanced' questionnaire. Some of the statements were simply reversed in wording to produce their negative counterpart whereas others used recognised negative concepts identified from the preliminary exploration. This technique has been used previously in general practice, for example by Pringle et al. (1984), to counter bias due to 'response acquiescence'. The ten pairs of statements were randomly ordered giving an item pool of twenty questions in all. A Likert-type (Likert 1932) format with five response codes numbered one to five, ranging from "strongly agree" to "strongly disagree" was used for each statement. The attitude questions were placed first to gain the interest of the respondent. An open question asking for any other comments was included at the end of this section.

**Figure 2 Attitude statements**

<p><b>Effectiveness</b></p> <p>Using well-constructed guidelines will improve patient care.</p> <p>Guidelines would not improve the care I give to my patients.</p>	<p><b>‘Top down’ versus ‘bottom up’</b></p> <p>Guidelines should be based on what actually happens in general practice.</p> <p>GPs shouldn’t bother to develop guidelines when national guidelines exist.</p>
<p><b>Clinical freedom</b></p> <p>I can exercise my clinical judgement within guidelines.</p> <p>Guidelines will diminish a GP’s clinical freedom.</p>	<p><b>Scientific basis</b></p> <p>Good practice is not always ‘scientific’.</p> <p>We should base guidelines only on what has been scientifically proven.</p>
<p><b>Innovation</b></p> <p>Guidelines help doctors to work in the same way.</p> <p>Guidelines stifle innovation.</p>	<p><b>Implementation</b></p> <p>I find it helpful to follow accepted guidelines.</p> <p>I didn’t become a GP to practice ‘cookbook’ medicine</p>
<p><b>Patients as individuals</b></p> <p>Guidelines can be used flexibly to suit the needs of individual patients.</p> <p>Patients are too different for guidelines to be of any use.</p>	<p><b>Performance-related pay</b></p> <p>I would adopt guidelines if there was a financial reward.</p> <p>I am worried that guidelines will be used for performance-related pay.</p>
<p><b>Litigation</b></p> <p>If I follow accepted guidelines I am less likely to be sued successfully.</p> <p>Adopting guidelines will increase the risk of litigation</p>	<p><b>Political overtones</b></p> <p>Implementing guidelines will demonstrate my competence as a GP</p> <p>Guidelines are the first step to GPs losing independent contractor status.</p>

The second section consisted of factual questions on the respondent's attributes (what people are) and behaviour (what people do) (Newell 1993). The attributes included age, gender, membership (or fellowship) of the Royal College of General Practitioners and trainer status. In terms of behaviour, practitioners were asked whether they had written guidelines or carried out audit in their practice, either individually or with other members of the practice team.

### **Pilot study**

The questionnaire was piloted with a group of one hundred and fourteen general practitioners who had participated in an inter-practice audit of diabetes mellitus organised through the Lincolnshire Medical Audit Advisory Group. The aim of the pilot study was to assess the questionnaire for validity and reliability.

### **Reliability**

One measure of the reliability of a questionnaire is the extent to which it produces the same results on repeated use, that is stability. I decided not to determine test-retest stability because of constraints of time and cost. Instead, the consistency of response to the related attitude statements, another perhaps more significant measure of reliability was evaluated. This was determined using Cronbach's alpha for internal consistency correlation (Cronbach 1984). Alpha as well as being a guide to test-retest stability of the questionnaire is also a measure of the consistency of response to the related items. Alpha is known to increase with the average correlation between items but also with number of items in a questionnaire (Nunnally 1967). The scoring was reversed for positively worded items so that a high score for both positively and

negatively worded statements would reflect a more positive attitude towards guidelines. Therefore one would expect a positive correlation between items if they were indeed measuring the same attitude.

### **Validity**

The validity of a questionnaire is the extent to which it measures what it sets out to, in this case, attitudes and beliefs towards guidelines. There are three broad components of validity. Content validity requires that the test contains statements on all the relevant issues contributing to the doctors' views. Construct validity uses a construct or a hypothesis about the characteristic which the test seeks to measure, that is supported by other research and which predicts what the test should demonstrate. Finally criterion validity compares the results with another measure (the criterion) that is itself accepted as valid.

The returned pilot questionnaires were assessed for content validity by the pattern of response (Oppenheim 1966), specifically the following:

- Overall response rate since the higher the response rate the more relevant the questionnaire was likely to have been.
- Frequency tables showing whether a range and diversity of opinion was being disclosed.
- Graphs of replies showing the distribution and skewness of responses.
- Graphs of paired attitude statements to see whether there was a (negative) correlation between attitudes being expressed by the respondents to question pairs.

- The proportion of “strongly agree” and “strongly disagree” responses suggesting that the respondent identified strongly with the statement or its converse.
- The proportion of “neutral” responses to a particular statement, a high number indicating a statement of little relevance to the sample of respondents.
- Mean (or median) response, measuring whether respondents were broadly in agreement, disagreement or neutral towards a particular statement.
- Failure to respond to individual statements implying that the statement was ill understood or poorly constructed.
- Amendments, deletions or additional comments quibbling with the statements implying ambiguity or failure to cover all the issues and thus poor content validity.

By measuring the correlation between an individual practitioner's response and their previous activity in producing practice guidelines it would be possible to assess the construct validity of the questionnaire since practitioners who had written guidelines would be more likely to have a positive attitude towards them.

In order to do a preliminary test of the hypothesis of this study, respondents were also asked about previous audit activity to see whether there was any relationship between attitude to guidelines, guideline writing in practice and audit activity.

Attitudes to guidelines were also analysed according to age, membership of the Royal College of General Practitioners, type of practice and whether the doctor was a general practice trainer. Some of these factors have been found previously to correlate with quality of care general practice (Bridgstock 1979).

### **Questionnaire refinement**

The attitude statements in the questionnaire 'instrument' were not altered after the pilot study since the validity and reliability of responses to the pilot were adjudged to be satisfactory for the purpose of the main study. The statements were retained unchanged because of the limited timescale for this study although small numbers of respondents found individual statements ambiguous. Multiple responses in the pilot to the questions about guidelines and audit which had to be aggregated for the initial analysis were simplified in the later questionnaire.

### **Main study**

The refined instrument with its minor modifications was sent to all other general practitioners in Lincolnshire.

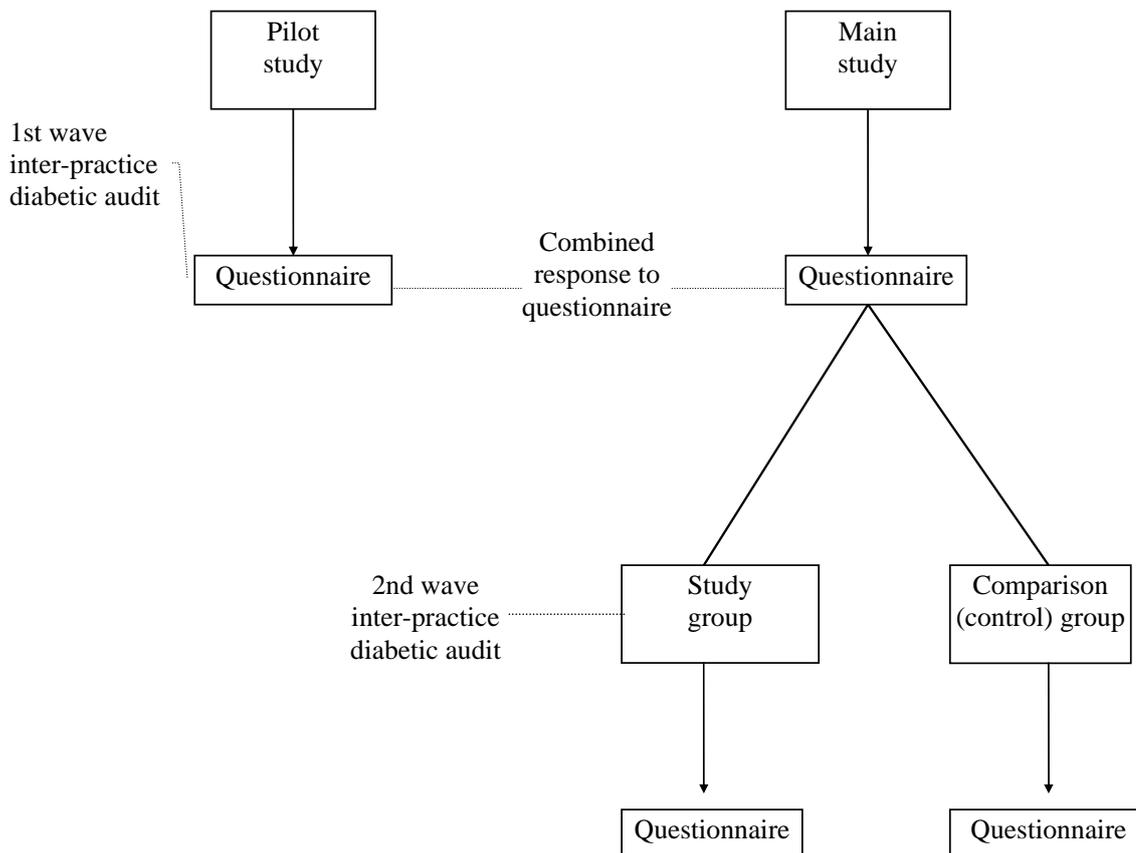
General practitioners who did not participate in first wave of the diabetic inter-practice audit were then selected. They were invited to take part in the investigation of attitude change following the second wave of the inter-practice audit and sent a further questionnaire to assess attitude change.

### **Statistical analysis**

Responses from subgroups were compared using chi square for analysis of nominal data with Yates' correction where appropriate. Chi square for linear trend was used to compare ordinal (ordered nominal) data. Fisher's exact test was used where the results were in the form of two by two tables. The analysis was carried out with a PC486 DX40 employing the *EPI-INFO* statistical package (Dean et al. 1990). Graphs were

produced using *MICROSOFT EXCEL 5.0*. The reliability analysis was performed on an AppleMac using *SPSS RELEASE 4.0 FOR MACINTOSH*.

**Figure 3 Schematic representation of study design**



## **PILOT STUDY**

The questionnaire was piloted with general practitioners who had participated in the first wave of the inter-practice diabetic audit organised by Lincolnshire MAAG. Questionnaires (*see Appendix 2&3*) were sent to 114 doctors and 75 were returned completed, i.e. a response rate of 65.8%. The pilot was conducted with a relatively large sample in order to estimate the reliability and validity of the questionnaire.

### **Reliability**

Internal consistency correlation was used to assess the reliability of the pilot questionnaire. Scoring was reversed for positively worded items. The column labelled 'Corrected item-total correlation' (*see Table 1*) shows the correlation between scores for individual items with the sum of the scores on all the other items, using the Pearson correlation coefficient.

Cronbach's alpha for the whole questionnaire was 0.73. The standardised item alpha, which is the value of  $\alpha$  when all items are standardised to have a variance of 1 was 0.76. These reliability coefficients indicated a good degree of consistency between the items and a sufficient reliability for the purposes of this study.

Alpha if item deleted (*Table 1*) showed little change in Cronbach's alpha for the questionnaire when any of the items was excluded. This indicated that omitting any of the statements would not alter the reliability of the attitude questionnaire as a whole.

**Table 1 Item total statistics for pilot questionnaire**

<i>Question</i>	<i>Corrected item-total correlation</i>	<i>Alpha if item deleted</i>
Q1	.3518	.7185
Q2	.1412	.7360
Q2	.1708	.7355
Q4	.3744	.7193
Q5	.2096	.7291
Q6	.3707	.7166
Q7	.3367	.7204
Q8	.0900	.7431
Q9	.1931	.7300
Q10	.5521	.7033
Q11	.4911	.7105
Q12	.4242	.7148
Q13	.3282	.7213
Q14	.5162	.7051
Q15	.2724	.7248
Q16	.1814	.7126
Q17	.3969	.7154
Q18	.4388	.7126
Q19	.1911	.7403
Q20	.3070	.7220

**Validity**

The response rate was reasonable compared with other similar surveys (Sibbald et al. 1994). The comments to the questionnaire (*see Table 2*) did not highlight any additional areas of concern. There were no deletions and few amendments or additional comments quibbling with the attitude statements. Non-response to individual statements was small (*see Table 3*). This suggested that the relevant issues had been covered and indicated a good content validity for the questionnaire.

## Table 2 Comments to pilot questionnaire

What does scientific mean? (Q2)

What does this mean? Popperism or Brownism? (Q2)

Each GP should feel they have contributed to any guidelines they are asked to follow. (Q3&5)

Depends on topic. Guidelines in general sound good but they are essentially an addition to management rather than a replacement for it. (Q5)

Less likely to be sued successfully! (Q8)

Should read 'Guidelines should be flexible to suit the needs of individual patients'. (Q10)

For people not using them. (Q11)

May increase the risk to those who ignore them. (Q11)

Yes and no?! (Q11)

Not sure if this is pejorative. (Q14)

Demonstrate competence to whom? (Q16)

Competence as a GP administrator. (Q16)

I find it helpful to take guidelines into consideration. (Q17)

How much?! (Q19)

Single-handed GP. Would not refuse appropriate reward. (Q19) But not guidelines. (Q20)

Sorry, I do not know what this means. Will I get any feedback on this vis a vis consensus attitudes? (Q20)

This is a rhetorical statement! (Q20)

These days it does not seem to be relevant why I became a GP as general practice is totally different from when I started! (Q20)

But I do not see guidelines as necessarily meaning cookbook medicine. There is a hell of a lot more to the art of practice of medicine than medicines. (Q20)

Protocols designed for special clinics only.

The returned pilot questionnaires were also assessed for content validity by the pattern of response using frequency distributions and graphs of responses to

individual statements and statement pairs. The pattern of response was similar to that of the main study and since the attitude statements were essentially unaltered for the main study the results were amalgamated and are shown and discussed below (*see Figures 4 to 8*).

In attempting to assess the construct validity of the pilot questionnaire, practitioners who had written guidelines were compared with those who had not and responses analysed for differences in attitude towards guidelines (*see Table 3*). The analysis was hampered by the small number of respondents (10 out of 75) who had not written guidelines. Those who had written guidelines had a generally more positive attitude towards them. They were significantly less threatened by loss of clinical freedom ( $p=0.014$ ). However, those who had not written guidelines unanimously agreed with the statement, “Good practice is not always scientific” whereas only 74% of those that had written guidelines agreed. This difference was only just significant at the 5% level ( $p=0.041$ ). General practitioner respondents who had written guidelines were more positive in their attitude in response to twelve of the remaining eighteen attitude statements, all except for Q3,5,6,10,15 and 19 (*denoted in Table 3*).

Respondents who had written practice guidelines were also significantly more likely to have undertaken audit in their practice (65/65 (100%) vs. 8/10(80%), Fisher exact test, 2-tailed,  $p=0.016$ ).

**Table 3 Responses to pilot questionnaire comparing general practitioners who had written guidelines with those who had not.**

Question	Response	Percentage of general practitioners	
		Guidelines written in practice n=65	No guidelines written n=10
<b>Effectiveness</b>			
Using well constructed guidelines will improve patient care(+) (n=75/75)	Strongly agree/agree	80.0	70.0
	Neutral	16.9	30.0
	Strongly disagree/disagree	3.1	0.0
		$\chi^2$ for trend=0.003	p=0.95
Guidelines would not improve the care I give to my patients (-) (n=74/75)	Strongly agree/agree	9.4	10.0
	Neutral	23.4	30.0
	Strongly disagree/disagree	67.2	60.0
		$\chi^2$ =0.8, d.f.=5	p=0.98
		$\chi^2$ for trend=0.2	p=0.66
<b>Clinical freedom</b>			
I can exercise my clinical judgement within guidelines(+) (n=75/75)	Strongly agree/agree	87.7	90.0
	Neutral	4.6	0.0
	Strongly disagree/disagree	7.7	10.0
		$\chi^2$ =0.62, d.f.=3	p=0.89
		$\chi^2$ for trend=0.019	p=0.89
Guidelines will diminish a GPs clinical freedom(-) (n=75/75)	Strongly agree/agree	20.0	40.0
	Neutral	20.0	40.0
	Strongly disagree/disagree	60.0	20.0
		$\chi^2$ = 5.6*, d.f.=2	p=0.061
		$\chi^2$ for trend=5.99	<b>p=0.014</b>
<b>Innovation</b>			
Guidelines help doctors to work in the same way(+) (n=75/75)	Strongly agree/agree	73.8	70.0
	Neutral	21.6	10.0
	Strongly disagree/disagree	4.6	20.0
		$\chi^2$ for trend=0.10	p=0.75
Guidelines stifle innovation(-) (n=75/75)	Strongly agree/agree	15.4	30.0
	Neutral	21.5	40.0
	Strongly disagree/disagree	63.1	30.0
		$\chi^2$ =4.16 ,d.f.=4	p=0.38
		$\chi^2$ for trend=2.25	p=0.13
<b>Patients as individuals</b>			
Guidelines can be used flexibly to suit the needs of individual patients(+) (n=74/75)	Strongly agree/agree	83.1	100.0
	Neutral	69.2	0.0
	Strongly disagree/disagree	7.7	0.0
		$\chi^2$ for trend=2.68	p=0.10
Patients are too different for guidelines to be of any use(-) (n=75/75)	Strongly agree/agree	7.7	20.0
	Neutral	21.5	20.0
	Strongly disagree/disagree	70.8	60.0
		$\chi^2$ =2.44 ,d.f.=4	p=0.65
		$\chi^2$ for trend=0.49	p=0.48

**Table 3** (continued)

<i>Question</i>	<i>Response</i>	<i>Guidelines written in practice</i>	<i>No guidelines written</i>
<b>Litigation</b>			
If I follow accepted guidelines I am less likely to be sued (+) (n=75/75)	Strongly agree/agree	66.2	60.0
	Neutral	26.2	30.0
	Strongly disagree/disagree	7.6	10.0
		$\chi^2 = 0.16^*$	p=0.92
		$\chi^2$ for trend=1.02	p=0.31
Adopting guidelines will increase the risk of litigation(-) (n=75/75)	Strongly agree/agree	18.8	20.0
	Neutral	15.6	20.0
	Strongly disagree/disagree	65.6	60.0
		$\chi^2 = 0.88$ , d.f.=4	p=0.93
		$\chi^2$ for trend=0.011	p=0.92
<b>'Top down' vs. 'bottom up'</b>			
Guidelines should be based on what actually happens in general practice(+) (n=75/75)	Strongly agree/agree	46.2	60.0
	Neutral	38.5	10.0
	Strongly disagree/disagree	15.3	30.0
		$\chi^2 = 4.52$ , d.f.=3	p=0.21
		$\chi^2$ for trend=0.055	p=0.81
GPs shouldn't bother to develop local guidelines when national guidelines exist(-) (n=74/75)	Strongly agree/agree	12.5	10.0
	Neutral	21.8	0.0
	Strongly disagree/disagree	65.7	90.0
		$\chi^2 = 5.89$ , d.f.=5	p=0.32
		$\chi^2$ for trend=2.98	p=0.084
<b>Scientific basis</b>			
Good practice is not always scientific(+) (n=75/75)	Strongly agree/agree	73.8	100.0
	Neutral	21.5	0.0
	Strongly disagree/disagree	4.6	0.0
		$\chi^2$ for trend=4.19	<b>p=0.041</b>
We should base guidelines only on what has been scientifically proven(-) (n=75/75)	Strongly agree/agree	61.5	70.0
	Neutral	12.3	10.0
	Strongly disagree/disagree	26.2	20.0
		$\chi^2 = 0.27^*$	p=0.87
		$\chi^2$ for trend=0.65	p=0.42
<b>Implementation</b>			
I find it helpful to follow accepted guidelines(+) (n=74/75)	Strongly agree/agree	71.9	70.0
	Neutral	25.0	30.0
	Strongly disagree/disagree	3.1	0.0
		$\chi^2$ for trend=0.021	p=0.88
I didn't become a GP to practise "cookbook" medicine(-) (n=70/75)	Strongly agree/agree	48.3	70.0
	Neutral	25.0	30.0
	Strongly disagree/disagree	26.7	0.0
		$\chi^2 = 3.63^*$ , d.f.=2	p=0.16
		$\chi^2$ for trend=2.75	p=0.097

**Table 3** (continued)

<i>Question</i>	<i>Response</i>	<i>Guidelines written in practice</i>	<i>No guidelines written</i>
<b>Performance-related pay</b>			
I would adopt guidelines if there was a financial reward(+) (n=75/75)	Strongly agree/agree	30.8	50.0
	Neutral	23.1	30.0
	Strongly disagree/disagree	46.1	20.0
		$\chi^2 = 5.71$ , d.f.=4	p=0.22
		$\chi^2$ for trend=3.09	p=0.079
I am worried that guidelines will be used for performance-related pay(-) (n=75/75)	Strongly agree/agree	26.2	10.0
	Neutral	26.2	40.0
	Strongly disagree/disagree	47.6	50.0
		$\chi^2 = 1.55^*$ , d.f.=2	p=0.46
		$\chi^2$ for trend=0.63	p=0.43
<b>Political overtones</b>			
Implementing guidelines will demonstrate my competence as a GP(+) (n=75/75)	Strongly agree/agree	26.2	0.0
	Neutral	33.8	50.0
	Strongly disagree/disagree	40.0	50.0
		$\chi^2 = 4.83$ , d.f.=4	p=0.30
		$\chi^2$ for trend=0.72	p=0.40
Guidelines are the first step to GPs losing independent contractor status(-) (n=75/75)	Strongly agree/agree	10.8	20.0
	Neutral	21.5	20.0
	Strongly disagree/disagree	67.7	60.0
		$\chi^2 = 0.77$ , d.f.=4	p=0.94
		$\chi^2$ for trend=0.55	p=0.46
<b>Audit and guidelines</b>			
Have you carried out audit(s) in your practice (n=75/75)	Individually or with others in the practice team	100.0	80.0
	Not at all	0.0	20.0
		Fisher exact test	<b>p=0.016</b>
		2-tailed	

The response categories have been grouped but statistics were applied to the original data. Chi square for trend was used for the analysis. Chi square itself was used on the original data unless cell numbers were too small \* in which case grouped data were analysed. n = number of respondents. (+) or (-) indicates whether the question was designed to reflect a positive or negative towards guidelines.

## RESULTS

### Main survey

Of 326 Lincolnshire general practitioners invited to participate, 213 returned the questionnaire completed giving a response rate of 65.3%. Table 4 shows some characteristics, attributes and behaviours of the respondents. Over three quarters of general practitioners who replied had produced written guidelines (78.4%) for patient care and most (92.0%) had carried out audit in their practice, either individually or with others in the practice team.

**Table 4 Characteristics of general practitioners responding to the guidelines questionnaire**

<i>Attributes and behaviours of respondents</i>	<i>No. of respondents, n=213</i>	<i>(%)</i>
Male	170	(79.8)
Age		
25-34	51	(23.9)
35-44	93	(43.7)
45-54	45	(21.1)
>55	22	(10.3)
Member (or fellow) of the Royal College of General Practitioners	98	(46.0)
General practice trainer	35	(16.4)
Have you written guidelines for patient care in your practice:		
Individually or with others in the practice team?	167	(78.4)
Not at all?	40	(18.8)
Have you carried out audit within your practice:		
Individually or with others in the practice team?	196	(92.0)
Not at all?	16	(7.5)

Not all respondents answered every question

### Comparison of respondents with all Lincolnshire general practitioners

Respondents were compared for age, sex and partnership size, in order to account for non-responders (see Tables 5,6&7). Respondents closely matched non-respondents for these demographic characteristics.

**Table 5 Age distribution of respondents compared with all Lincolnshire general practitioners**

Age range	Respondents		All GPs in Lincolnshire (1994)*		$\chi^2$ <sup>†</sup> (d.f. = 1)	p value
	Number	(%)	Number	(%)		
25-34	51	23.9	57	17.5	3.35	0.067
35-44	93	43.7	144	44.2	0.01	0.91
45-54	45	21.1	77	23.6	0.46	0.50
>55	22	10.3	48	14.7	2.20	0.14

Analysis of the complete data table using chi<sup>2</sup> showed  $\chi^2 = 4.96$ , **d.f. = 3**, **p = 0.17** showing no significant difference in age for responding general practitioners compared with all Lincolnshire general practitioners.

**Table 6 Sex distribution of respondents compared with all Lincolnshire general practitioners**

Gender	Respondents		All GPs in Lincolnshire (1994)	
	Number	(%)	Number	(%)
Male	170	79.8	269	82.5
Female	43	20.2	65	19.9

Analysis of the data table using chi<sup>2</sup> showed  $\chi^2 = 0.04$ , **d.f. = 1**, **p = 0.84** showing no significant difference in sex distribution for respondents compared with all Lincolnshire general practitioners.

\* Figures obtained from Lincolnshire Health (1.10.94).

† Chi<sup>2</sup> for comparison of proportions calculated using Epi-info version 6.

**Table 7 Comparison of partnership size of respondents with all general practitioners in Lincolnshire**

Partnership size	Respondents		All GPs in Lincolnshire (1994)*		$\chi^2$ †	p value
	Number n=213	(%)	Number n=326	(%)		
Single-handed	17	8.0	21	6.4	0.47	0.49
In partnership of:						
2 doctors	38	17.8	64	19.6	0.27	0.60
3 doctors	28	13.1	69	21.2	5.62	0.018
4 doctors	38	17.8	52	16.0	0.33	0.57
5 doctors	45	21.1	45	13.8	4.97	0.026
6 doctors	25	11.7	42	12.9	0.16	0.69
7 doctors	4	1.9	7	2.1	0.02	0.88
8 doctors	10	4.7	16	4.9	0.01	0.91
9 doctors	0	0	0	0	-	-
10 or more doctors	7	3.3	10	3.1	0.02	0.89
Collapsed categories:						
1-2 doctors	55	25.8	85	26.1	0.00	0.95
3-5 doctors	111	52.1	173	53.1	0.05	0.83
6 or more doctors	46	21.6	68	20.9	0.04	0.84

Analysis of the data table using  $\chi^2$  showed  $\chi^2 = 9.89$ , **d.f. = 8**, **p = 0.27**, i.e. no significant difference between respondents compared to all Lincolnshire general practitioners with respect to partnership size. From the table one can see that there were significantly fewer 3 partner practices and significantly greater 5 partner practices amongst respondents. When the categories are collapsed the differences are less apparent and  $\chi^2$  for the collapsed category data showed  $\chi^2 = 0.06$ , d.f. = 2, p = 0.97.

\* Lincolnshire Health (1994).

†  $\chi^2$  for comparison of proportions calculated using Epi-info version 6.

### **Questionnaire reliability**

By reliability I mean the degree to which practitioners responded in a consistent way to the attitude questionnaire. It was important to demonstrate that the attitude questions were measuring broadly the same attitude, i.e. whether practitioners were positive (or negative) towards guidelines.

The twenty attitude statements consisted of ten positive and ten negative statements with responses ranging from “strongly agree” to “strongly disagree” in a five-point Likert type scale, giving 1 (strongly agree), 2 (agree) and so on up to 5 (strongly disagree), with 0 for no response. Scoring was reversed for positive statements so that a high score always meant a positive attitude to guidelines with one indicating a negative attitude and five a positive attitude. Mean scores showing the overall attitude among respondents towards guidelines for each statement were calculated (*see Table 11*).

Reliability analysis was completed using SPSS Release 4.0 For Macintosh (Norusis 1990). Non-parametric tests were used as scores were derived from ordinal scales and distributions were not normal. Pearson product moment correlation coefficients between items are shown (*see Table 8*). The correlations between the items range from minus 0.142 to plus 0.607, giving a range of 0.749. The ratio between the largest and smallest correlation was  $0.607/-0.142$ , or  $-4.273$ . The average correlation was 0.209, variance 0.02. The item with the smallest correlation compared with other items was Q2, “Good practice is not always scientific”, with correlation coefficients less than 0.1 for 13 items and including 5 negative correlations. The item with the

next smallest correlation with other items was its pair Q9, “We should base guidelines only on what has been scientifically proven”, with correlation coefficients less than 0.1 for 12 items and including 2 negative correlations.

The covariance matrix (*see Table 9*) showed how individual items tended to move or vary with each other and confirmed a similar pattern of association between responses to the correlation matrix.

The relationship between attitude statements was further evaluated (*see Table 10*). The column labelled ‘Corrected item-total correlation’ shows the correlation between scores for individual items with the sum of the scores on all the other items, using the Pearson correlation coefficient. The two items with the lowest correlations were Q2 (0.1299) and Q9 (0.1240) confirming the poorer relationship between these and the other items. Conversely, Q1 (“Using well constructed guidelines will improve patient care”) and Q7 (“Guidelines would not improve the care that I give to my patients”) have the highest correlations of 0.6659 and 0.5908 respectively.

The internal consistency of attitude responses (again with positive statements recoded) was calculated. Cronbach’s alpha was 0.833. The standardised item alpha, which is the value of  $\alpha$  when all items are standardised to have a variance of 1 was 0.841. The high degree of consistency between the elements confirmed the reliability analysis for the pilot study.

Alpha if item deleted (*see Table 10*) showed little change in Cronbach’s alpha for the combined statements when any of the items was excluded indicating that omitting any

of the statements would not appreciably alter the reliability of the attitude questionnaire as a whole. The slight increase in  $\alpha$  when Q2 or Q9 were deleted reflected the poorer correlation of these statements with respondents' attitudes towards guidelines.

**Table 8 Correlation matrix for attitude statements**

	Q1	Q2	Q3	Q4	Q5
Q1	1.0000				
Q2	.0663	1.0000			
Q3	.1432	.2798	1.0000		
Q4	.3807	.0053	.2022	1.0000	
Q5	.2025	.2077	.1536	.1149	1.0000
Q6	.4594	.0617	.1544	.2920	.2012
Q7	.5087	.0818	.1486	.2738	.2673
Q8	.2708	.0863	.1655	.0815	.0328
Q9	-.0414	.1394	.1438	.1859	.2249
Q10	.4050	.1970	.2091	.1459	.2563
Q11	.2910	.0202	.1693	.2832	.1056
Q12	.5526	-.0475	.0921	.4933	.1550
Q13	.5397	-.0996	.0428	.4004	.1406
Q14	.3289	.2366	.1863	.1861	.0692
Q15	.2875	.0546	.0506	.2256	.0816
Q16	.3934	-.0177	.1113	.2195	.0190
Q17	.5070	.0754	.0369	.2960	.0108
Q18	.3869	-.0121	.1012	.3791	.1280
Q19	.2306	.1554	.1261	.0595	.1622
Q20	.3145	-.1420	.0879	.2981	.0500
	Q6	Q7	Q8	Q9	Q10
Q6	1.0000				
Q7	.4101	1.0000			
Q8	.2199	.2175	1.0000		
Q9	.0215	-.0167	-.0418	1.0000	
Q10	.6070	.3316	.2801	.0245	1.0000
Q11	.2467	.3172	.2042	.0499	.2501
Q12	.4158	.4146	.0853	.0696	.2515
Q13	.3768	.4685	.2238	-.0007	.3193
Q14	.2664	.2726	.2010	.0319	.3224
Q15	.1326	.2096	.1466	.0755	.1681
Q16	.1690	.3707	.2706	.0189	.1335
Q17	.3689	.3659	.2147	.0269	.2890
Q18	.2603	.3126	.0851	.0886	.1000
Q19	.0991	.1897	.2090	.0623	.2243
Q20	.1983	.3927	.1061	.0832	.1353
	Q11	Q12	Q13	Q14	Q15
Q11	1.0000				
Q12	.2904	1.0000			
Q13	.3446	.6039	1.0000		
Q14	.2106	.1016	.2791	1.0000	
Q15	.3113	.3188	.3475	.2293	1.0000
Q16	.1189	.3270	.2499	.2023	.1166
Q17	.2436	.3755	.4352	.3451	.2400
Q18	.2512	.4109	.4289	.2168	.4413
Q19	.0907	.0471	.1084	.3059	.0532
Q20	.1689	.2571	.3428	.2070	.2259
	Q16	Q17	Q18	Q19	Q20
Q16	1.0000				
Q17	.3552	1.0000			
Q18	.2056	.4517	1.0000		
Q19	.3150	.2096	.0601	1.0000	
Q20	.2389	.3367	.3836	.0985	1.0000

**Table 9 Covariance matrix for responses to attitude statements**

	Q1	Q2	Q3	Q4	Q5
Q1	.7882				
Q2	.0593	1.0170			
Q3	.1267	.2813	.9941		
Q4	.3646	.0058	.2175	1.1632	
Q5	.1961	.2285	.1671	.1351	1.1898
Q6	.3901	.0595	.1472	.3011	.2099
Q7	.4411	.0806	.1447	.2884	.2847
Q8	.2363	.0856	.1622	.0864	.0352
Q9	-.0433	.1656	.1689	.2362	.2889
Q10	.3546	.1959	.2056	.1551	.2757
Q11	.3020	.0238	.1973	.3570	.1347
Q12	.5456	-.0533	.1021	.5916	.1880
Q13	.4621	-.0969	.0412	.4164	.1479
Q14	.2333	.1906	.1485	.1604	.0603
Q15	.2928	.0632	.0579	.2791	.1021
Q16	.3758	-.0192	.1194	.2547	.0224
Q17	.4355	.0736	.0356	.3088	.0114
Q18	.3958	-.0141	.1163	.4712	.1609
Q19	.2602	.1992	.1598	.0816	.2250
Q20	.3673	-.1884	.1152	.4228	.0717
	Q6	Q7	Q8	Q9	Q10
Q6	.9146				
Q7	.3831	.9540			
Q8	.2067	.2088	.9665		
Q9	.0243	-.0192	-.0484	1.3877	
Q10	.5725	.3194	.2716	.0284	.9725
Q11	.2758	.3621	.2346	.0688	.2883
Q12	.4422	.4503	.0933	.0911	.2757
Q13	.3475	.4413	.2121	-.0007	.3036
Q14	.2036	.2128	.1580	.0301	.2541
Q15	.1454	.2348	.1654	.1021	.1901
Q16	.1739	.3896	.2862	.0240	.1417
Q17	.3413	.3458	.2043	.0307	.2757
Q18	.2869	.3519	.0964	.1203	.1136
Q19	.1205	.2355	.2612	.0932	.2812
Q20	.2494	.5044	.1372	.1290	.1755
	Q11	Q12	Q13	Q14	Q15
Q11	1.3664				
Q12	.3774	1.2364			
Q13	.3884	.6476	.9300		
Q14	.1967	.0903	.2151	.6387	
Q15	.4173	.4066	.3843	.2102	1.3155
Q16	.1495	.3913	.2593	.1740	.1439
Q17	.2755	.4040	.4061	.2669	.2664
Q18	.3383	.5265	.4766	.1996	.5832
Q19	.1348	.0666	.1329	.3108	.0776
Q20	.2596	.3759	.4348	.2176	.3408
	Q16	Q17	Q18	Q19	Q20
Q16	1.1577				
Q17	.3698	.9363			
Q18	.2549	.5036	1.3278		
Q19	.4310	.2578	.0880	1.6163	
Q20	.3381	.4285	.5814	.1646	1.7298

**Table 10 Item-total statistics for main study**

<i>Question</i>	<i>Corrected item- total correlation</i>	<i>Alpha if item deleted</i>
Q1	.6659	.8160
Q2	.1299	.8381
Q3	.2695	.8321
Q4	.4832	.8224
Q5	.2616	.8330
Q6	.5161	.8215
Q7	.5908	.8180
Q8	.3052	.8305
Q9	.1240	.8405
Q10	.4788	.8230
Q11	.4142	.8258
Q12	.5541	.8187
Q13	.5938	.8180
Q14	.4403	.8255
Q15	.3926	.8268
Q16	.4003	.8264
Q17	.5498	.8199
Q18	.5009	.8213
Q19	.2821	.8334
Q20	.3967	.8273

RELIABILITY COEFFICIENTS

N OF CASES = 214.0

N OF ITEMS = 20

ALPHA = .8333

STANDARDISED ITEM ALPHA = .8409

**Questionnaire validity**

Responses to each attitude statement pair were tabulated (*see Table 11*). Mean scores showed the extent to which respondents were positive in their attitude towards guidelines, a score greater than three indicating a positive attitude overall. Responses were also represented graphically (*Figures 4-8*). The shape of the graphs and degree and direction of skewness showed the level of agreement with a particular statement. There was the expected inverse relationship for some question pairs (*see Figures 4-6*) but an equivocal pattern of response for others (*see Figures 7&8*).

There was certainly a diversity of opinions expressed with the proportion of “strongly agree” and “strongly disagree” responses varying considerably. “Strongly agree” responses varied from one to thirty six per cent and “strongly disagree” from nought to nineteen percent. Similarly the proportion of “neutral” responses varied from fifteen to thirty nine per cent. It was inevitable with the number of questionnaires returned and the usual reluctance to use the extremes of the scale, sometimes referred to as central tendency or end-aversion, that some respondents would not always identify strongly with the statement or its opposite pair.

Most general practitioners responded to all the individual attitude statements implying that none of the statements were ill understood and establishing the *face validity* of the questionnaire.

There were very few amendments, deletions or additional comments quibbling with the statements demonstrating a good *content validity*.

By measuring the correlation between an individual practitioner's response and their previous activity in producing practice guidelines it was possible to assess the *construct validity* of the questionnaire since practitioners who had written guidelines would be more likely to have a positive attitude towards them.

As there was no other validated instrument for measuring general practitioners' attitudes towards guidelines there was no way of comparing the results with another accepted measure or confirming the *criterion validity* of the attitude questionnaire.

**Table 11 Paired statements on attitudes to guidelines in questionnaire showing responses (%),and mean scores.**

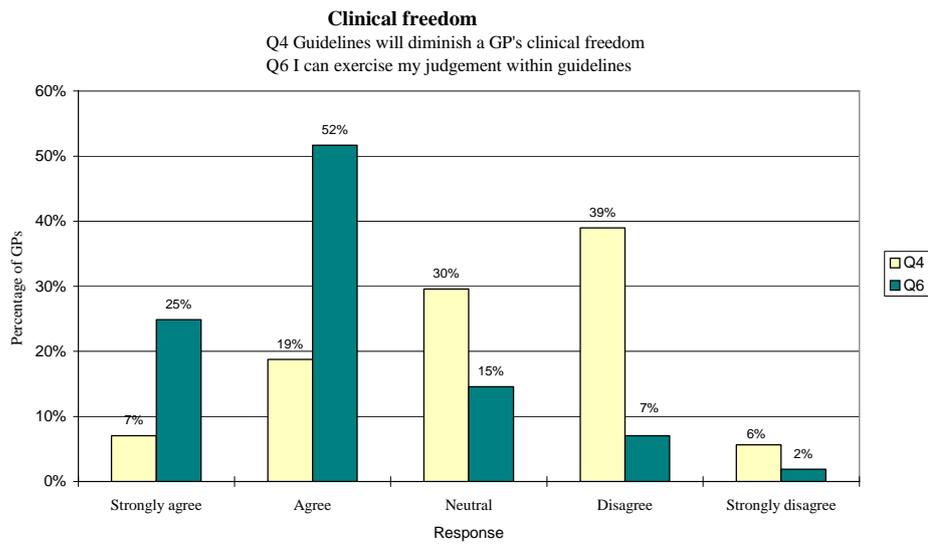
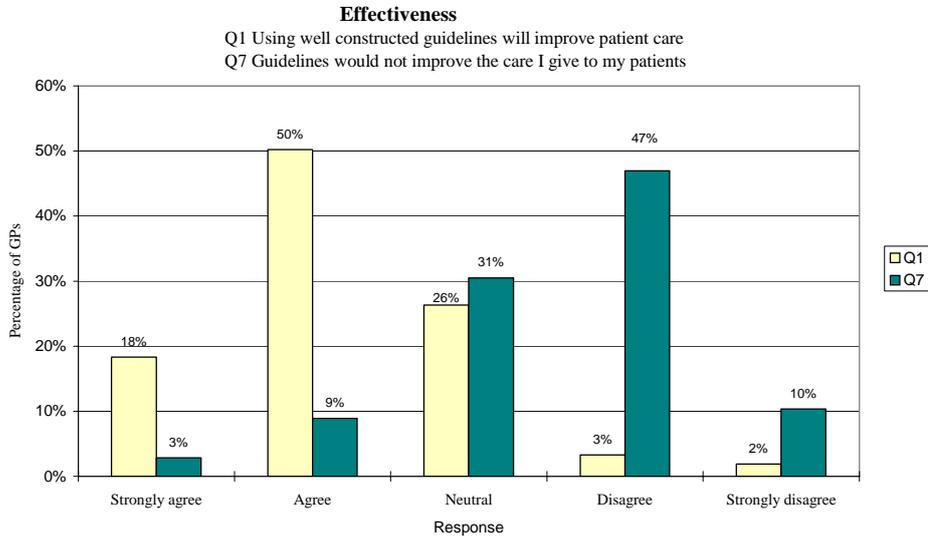
<i>Statement</i>	<i>No (%) of general practitioners</i>			<i>Mean score scale(1-5)*</i>
	<i>Agree or strongly agree</i>	<i>Neutral</i>	<i>Disagree or strongly disagree</i>	
<b>Effectiveness</b>				
Using well constructed guidelines will improve patient care	146 (68.5)	56 (26.3)	11 (5.2)	3.80
Guidelines would not improve the care I give to my patients	25 (11.7)	66 (31.0)	122 (57.3)	3.52
<b>Clinical freedom</b>				
I can exercise my clinical judgement within guidelines	163 (76.5)	31 (14.6)	19 (8.9)	3.91
Guidelines will diminish a GP's clinical freedom	55 (25.8)	63 (29.6)	95 (44.6)	3.17
<b>Innovation</b>				
Guidelines help doctors to work in the same way	142 (66.7)	57 (26.8)	14 (6.6)	3.69
Guidelines stifle innovation	54 (25.4)	62 (29.1)	97 (45.5)	3.24
<b>Patients as individuals</b>				
Guidelines can be used flexibly to suit the needs of individual patients	158 (74.1)	35 (16.4)	20 (9.4)	3.79
Patients are too different for guidelines to be of any use	26 (12.2)	58 (27.2)	129 (60.6)	3.61
<b>Litigation</b>				
If I follow accepted guidelines I am less likely to be sued	138 (64.8)	55 (25.8)	20 (9.4)	3.73
Adopting guidelines will increase the risk of litigation	44 (20.7)	42 (19.7)	127 (59.6)	3.53
<b>'Top down' versus 'bottom up'</b>				
Guidelines should be based on what actually happens in general practice	147 (69.0)	46 (21.6)	20 (9.4)	3.88
GPs shouldn't bother to develop guidelines when national guidelines exist	38 (17.8)	55 (25.8)	120 (56.3)	3.46

**Table 11** (continued)

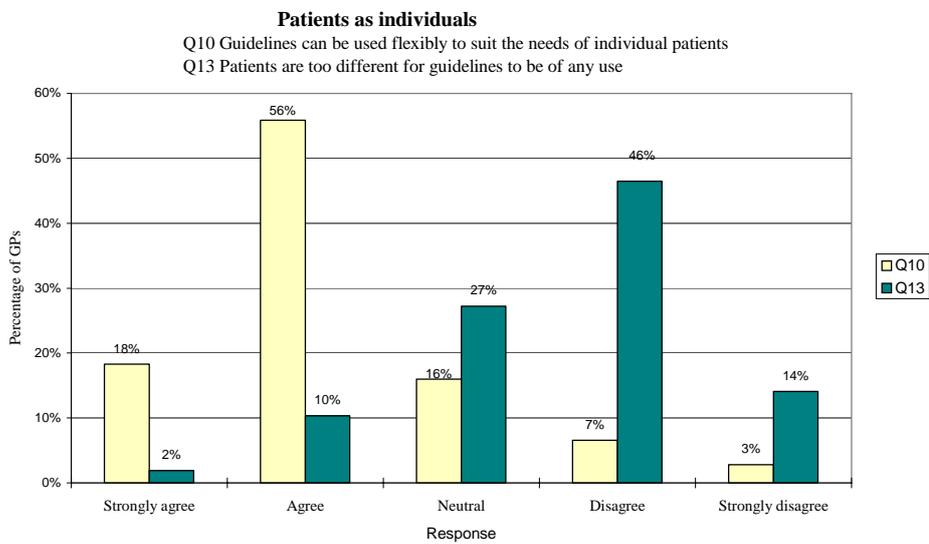
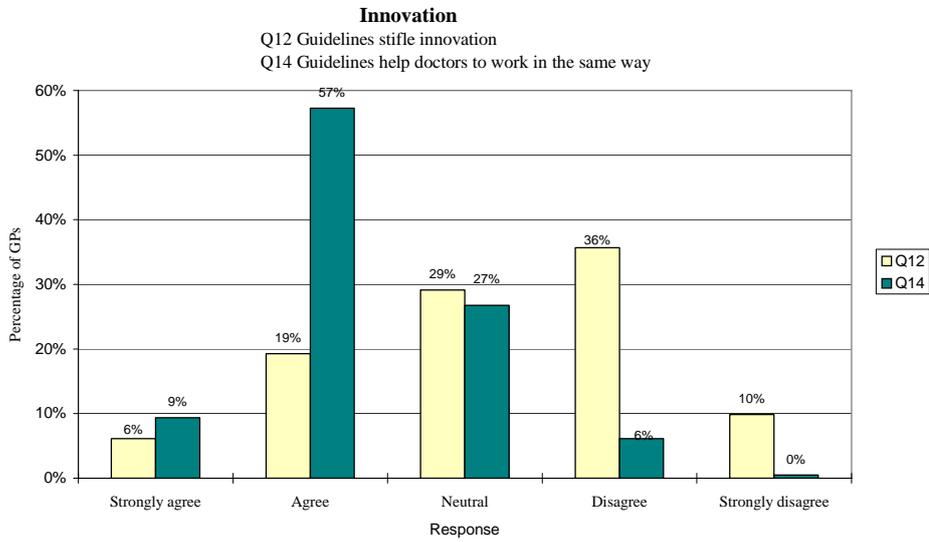
	Agree or strongly agree	Neutral	Disagree or strongly disagree	Mean score scale(1-5)
<b>Scientific basis</b>				
Good practice is not always 'scientific'	161 (75.6)	37 (17.4)	14 (6.6)	4.04
We should base guidelines only on what has been scientifically proven	108 (50.7)	52 (24.4)	53 (24.9)	2.61
<b>Implementation</b>				
I find it helpful to follow accepted guidelines	122 (57.3)	67 (31.5)	24 (11.3)	3.48
I didn't become a GP to practice 'cookbook' medicine	93 (43.7)	62 (29.1)	48 (22.5)	2.54
<b>Performance-related pay</b>				
I would adopt guidelines if there was a financial reward	53 (24.9)	67 (31.5)	93 (43.7)	2.72
I am worried that guidelines will be used for performance- related pay	66 (31.0)	71 (33.3)	76 (35.7)	3.04
<b>Political overtones</b>				
Implementing guidelines will demonstrate my competence as a GP	38 (17.8)	73 (34.3)	101 (47.4)	2.55
Guidelines are the first step to GPs losing independent contractor status	39 (18.3)	60 (28.2)	114 (53.5)	3.42

\* Positive questions (the first in each pair) have been recoded so that a high score means a positive attitude to guidelines. A score less than three indicates a negative attitude overall.

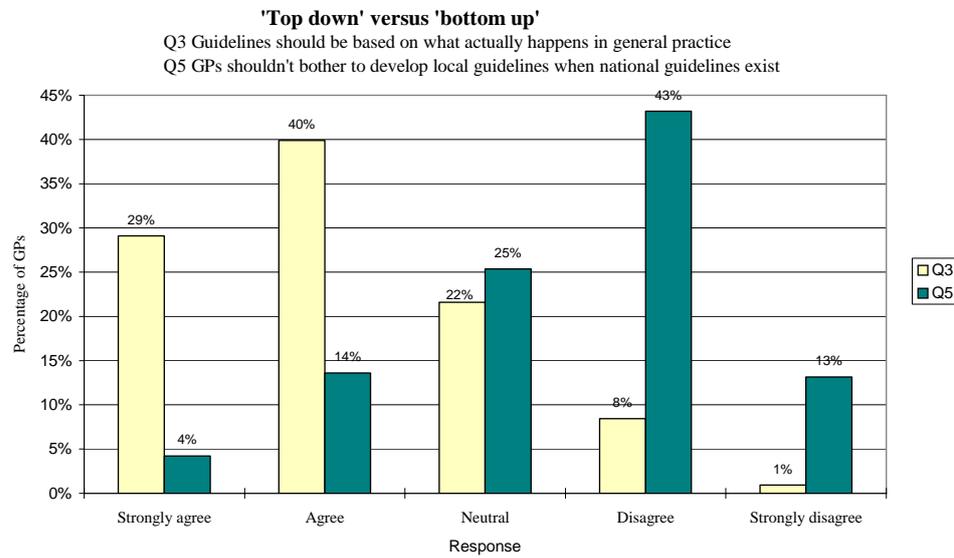
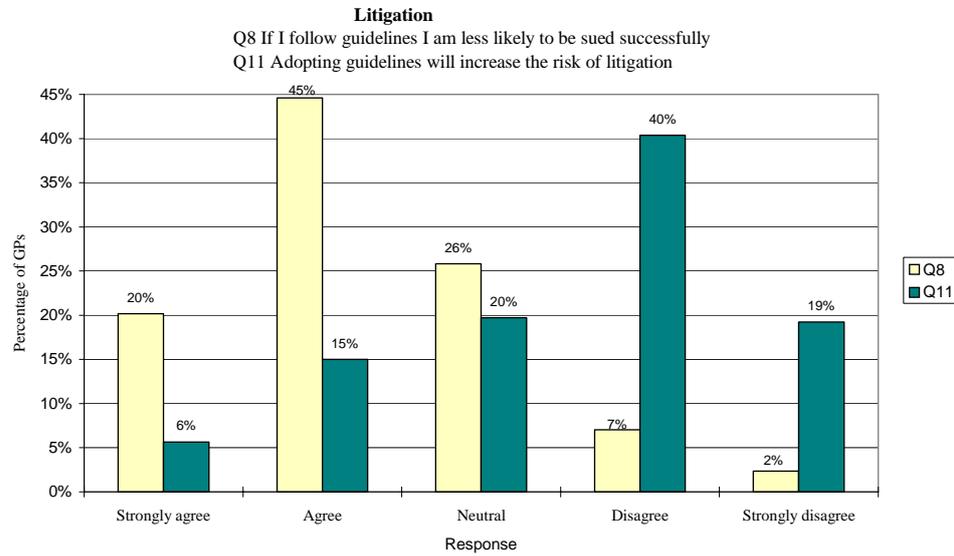
**Figure 4** Graphs showing responses to attitude statement pairs on effectiveness and clinical freedom



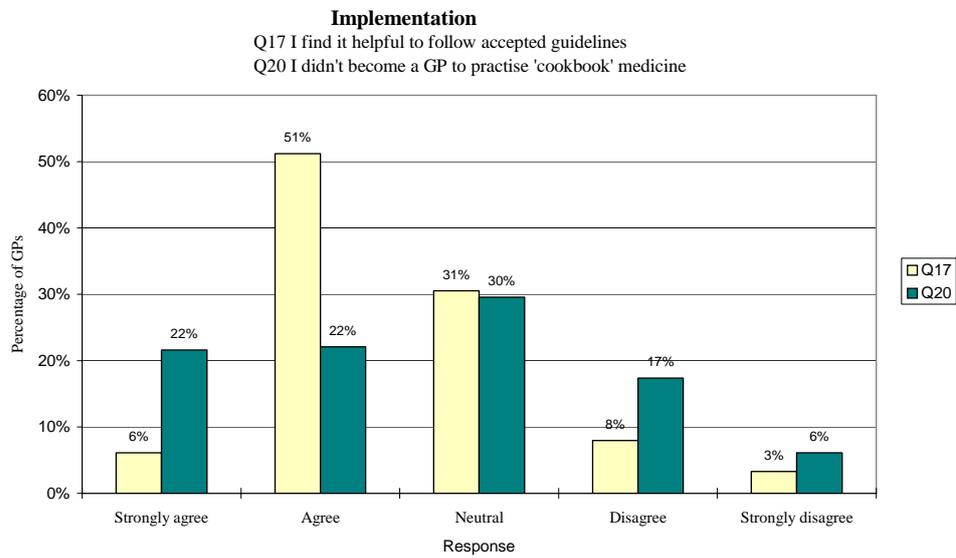
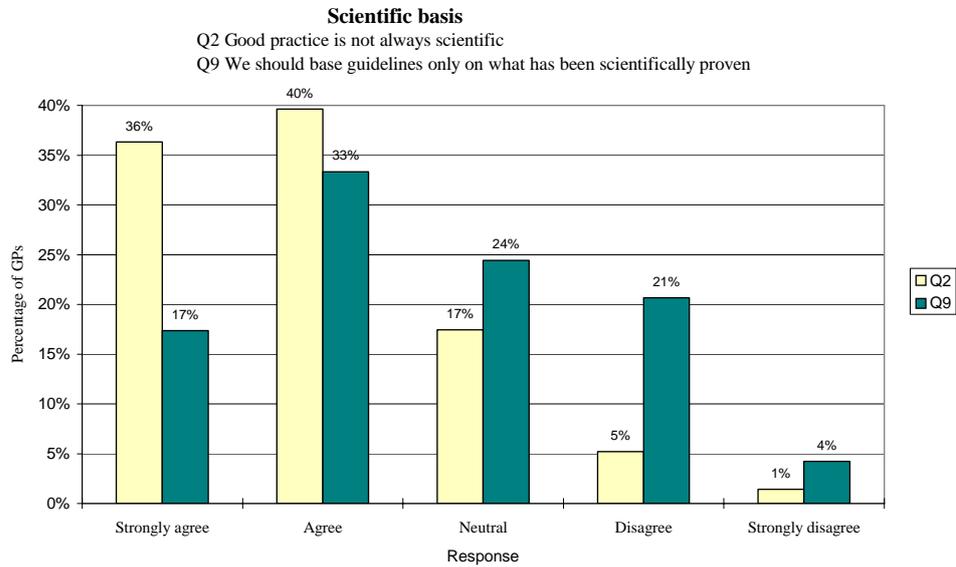
**Figure 5 Graphs showing responses to attitude statement pairs on innovation and patients as individuals**



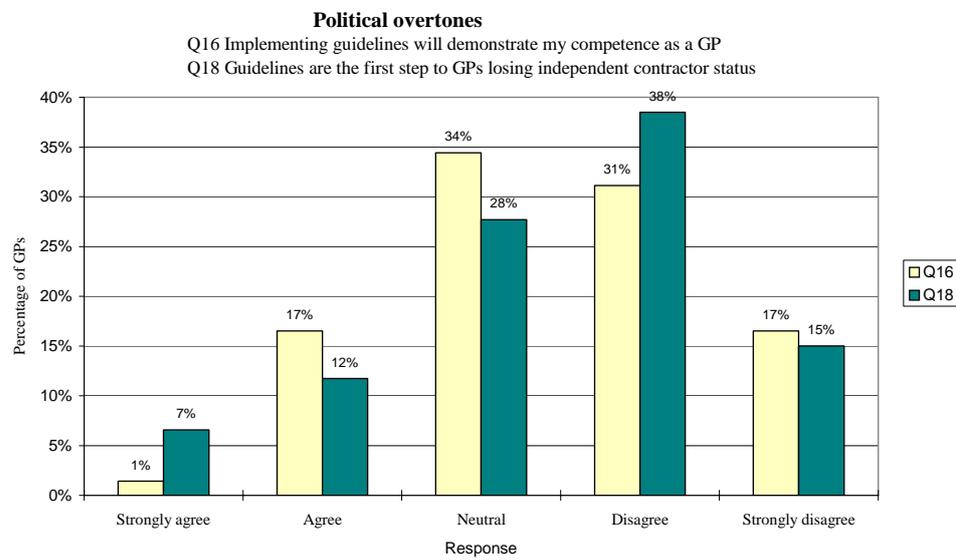
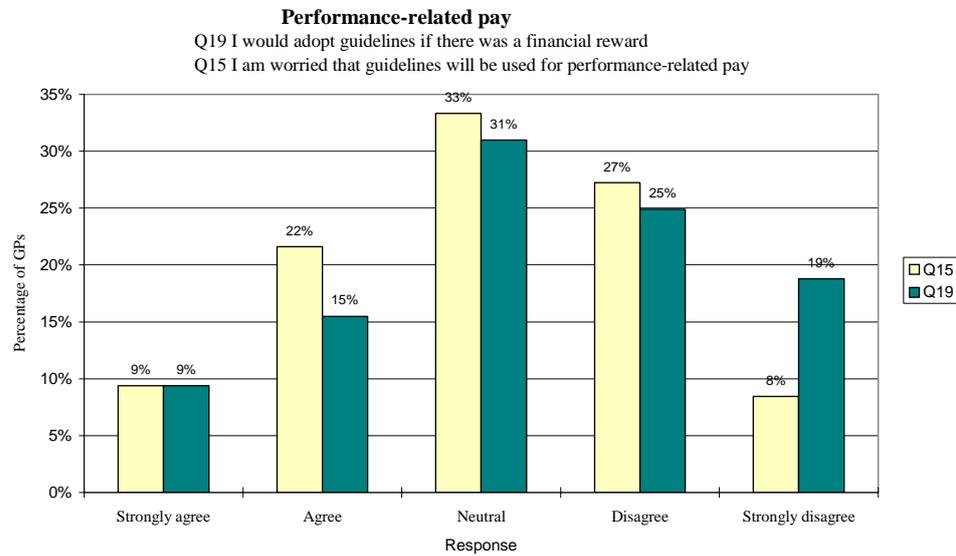
**Figure 6 Graphs showing responses to attitude statement pairs on litigation and 'top down' versus 'bottom up' guidelines**



**Figure 7 Graphs showing responses to attitude statement pairs on scientific basis and implementation**



**Figure 8** Graphs showing responses to attitude statement pairs on performance-related pay and the political implications of guidelines



### **Use of practice guidelines**

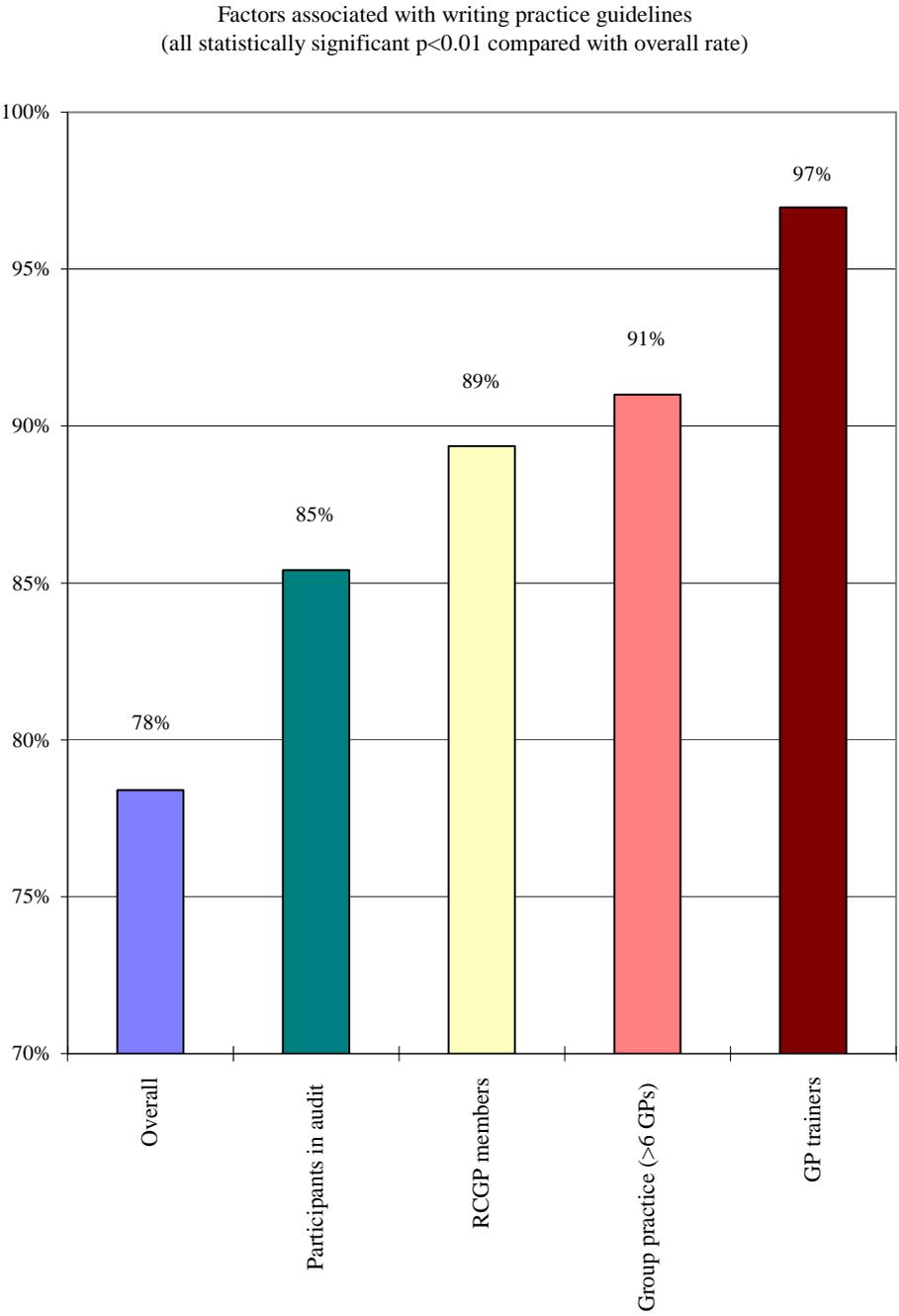
Practitioners who had participated in audit were significantly more likely to have written in-house guidelines (164/192(85.4%) v 3/15(20%), Fisher exact test, 2-tailed;  $p=0.0000002$ ). Members (or fellows) of the Royal College of General Practitioners were more likely than non-members to have done so (84/94(89.4%) v 83/113(73.5%),  $\chi^2=8.33$ , d.f.=1;  $p=0.0039$ ). General practice trainers were also more likely than non-trainers to have written guidelines (32/33(97%) v 134/173(77.4%),  $\chi^2 =6.74$ , d.f.=1;  $p=0.0094$ ). There was no association with gender or age. Of the respondents who stated partnership size, those in larger groups (6 - 10 partners) were more likely than those in medium-sized (3 - 5 partners) or small single or two-handed partnerships to produce guidelines (30/33 (91%) v 53/66 (80%) v 16/32 (50%) respectively,  $\chi^2 = 16.34$ ,  $df = 2$ ;  $p = 0.00028$ ) (*see Figure 9*). There was no association with geographical setting of practice, either urban, rural or mixed.

### **Attitudes to practice guidelines**

The responses to the 20 attitudinal statements are displayed in pairs (*see Table 11*) for each dimension of concern.

The responses overall showed a positive attitude to guidelines for sixteen out of the twenty statements (mean score > 3.0), a negative attitude in three (mean score < 3.0) and equivocation in one (mean score ~ 3.0).

**Figure 9 Effect of general practitioner characteristics on writing practice guidelines**



*Effectiveness.* Most doctors responding (68.5%) thought that guidelines would improve patient care.

*Clinical freedom.* General practitioners mostly felt that they *could* exercise clinical judgement within guidelines (76.5%). They may have been referring to ‘in house’ guidelines that they themselves had produced since a significant minority (25.8%), also believed that guidelines would diminish clinical freedom.

*Innovation.* Two-thirds of respondents (66.7%) agreed that guidelines would help doctors to work in the same way whereas just over a quarter (25.4%) thought that guidelines would stifle innovation.

*Patients as individuals.* Respondents generally thought that guidelines could be used flexibly to suit individual patients (74.1%) and few thought that patients were too different for guidelines to be of any use (12.2%).

*Litigation.* It was largely believed that guidelines would reduce (64.8%) rather than increase (20.7%) the risk of litigation.

*‘Top down’ vs. ‘bottom up’.* Most practitioners (69.0%) wanted guidelines based on practice based care and few (17.8%) expressed a desire to rely on national guidelines.

*Scientific basis.* Over three quarters of respondents (75.6%) agreed that good practice is not always ‘scientific’ but just over half (50.7%) thought that guidelines should be scientifically based.

*Implementation.* Most of the sample (57.3%) acknowledged that they found it helpful to follow accepted guidelines but a large minority (43.7%) also agreed that they didn’t become general practitioners to practice ‘cookbook medicine’.

*Performance-related pay.* Practitioners were also divided on this issue. Although some (24.9%) accepted that financial incentives would encourage them to use

guidelines, almost a third (31.0%) of respondents were worried that guidelines may be used for performance-related pay.

*Political overtones.* Only 17.8% of general practitioners believed that implementing guidelines would demonstrate competence and a similar proportion (18.3%) felt that it might adversely affect independent contractor status.

### **Guidelines and membership of the Royal College of General Practitioners**

Responses for college members and non-members were compared (*see Table 12*) using mean scores for the two groups. A t-test was used to compare mean scores (and standard deviations) since the samples were large and the two groups were almost equal in size. Similar results were obtained using chi square for trend but are not shown.

Members (or fellows) of the Royal College of General Practitioners (RCGP) were significantly more likely to have written guidelines (84/94 (89%) v 83/113 (73%),  $\chi^2 = 8.3$ ,  $df = 1$ ;  $p = 0.003$ ) and participated in audit (94/97 (97%) v 102/115 (89%),  $\chi^2 = 3.98$  Yates corrected,  $df = 1$ ;  $p = 0.04$ ) than non-members. They were also more likely to be trainers (26/97(27%) v 9/115(8%),  $\chi^2 = 13.8$ ,  $d.f.=1$ ;  $p=0.0002$ ).

College members expressed a more positive attitude than non-members to guidelines in all but three of the twenty statements. In nine out of twenty of the attitudinal statements, and for at least one of each statement pair in eight of the ten dimensions of concern, RCGP members were significantly more positive than non-members. One

would only have expected a single significant association by chance for the twenty statements (assuming significance to be  $p < 0.05$ ).

*Effectiveness.* College members were more likely to be positive about the effectiveness of guidelines. They were significantly more likely to agree that guidelines would improve patient care ( $p = 0.054$ ) and disagree that they would not improve care ( $p = 0.00036$ ).

*Clinical freedom.* College members were significantly less likely to believe that guidelines would diminish clinical freedom ( $p = 0.03$ ).

*Innovation.* College members were significantly less likely to think that guidelines stifle innovation ( $p = 0.012$ ).

*Patients as individuals.* They were significantly more likely to disagree that patients are too different for guidelines to be useful ( $p = 0.0004$ ).

*Litigation.* College members were also significantly more likely to believe that using guidelines would protect them against litigation ( $p = 0.018$ ).

*'Top down' vs. 'bottom up'.* Members of the college were similar to non-members in a bias towards local guidelines.

*Scientific basis.* Members, like non-members, whilst more likely to accept that guidelines should be scientifically based also perceived good practice as more than just a scientific activity.

*Implementation.* Members of the college were significantly more positive towards the implementation of guidelines. They were more likely to find it helpful to follow accepted guidelines ( $p = 0.00014$ ) and less likely to identify with guidelines as “cookbook” medicine ( $p = 0.004$ ).

**Table 12 Responses to questionnaire comparing members of the Royal College of General Practitioners with non-members.**

<i>Statement</i>	<i>Mean score with positive statements recoded</i>		<i>t-test (2-tailed) p value</i>
	<i>RCGP members (n=98)</i>	<i>Non-RCGP (n=115)</i>	
<b>Effectiveness</b>			
Using well constructed guidelines will improve patient care	3.92	3.70	0.052
Guidelines would not improve the care I give to my patients	3.73	3.33	0.001
<b>Clinical freedom</b>			
I can exercise my clinical judgement within guidelines	3.96	3.86	0.43
Guidelines will diminish a GPs clinical freedom	3.34	3.03	0.03
<b>Innovation</b>			
Guidelines help doctors to work in the same way	3.76	3.63	0.24
Guidelines stifle innovation	3.44	3.07	0.01
<b>Patients as individuals</b>			
Guidelines can be used flexibly to suit the needs of individual patients	3.85	3.74	0.40
Patients are too different for guidelines to be of any use	3.85	3.4	0.0003
<b>Litigation</b>			
If I follow accepted guidelines I am less likely to be sued	3.90	3.59	0.017
Adopting guidelines will increase the risk of litigation	3.48*	3.56	0.59
<b>Top down' vs. 'bottom up'</b>			
Guidelines should be based on what actually happens in general practice	3.87*	3.89	0.88
GPs shouldn't bother to develop local guidelines when national guidelines exist	3.43*	3.49	0.69
<b>Scientific basis</b>			
Good practice is not always scientific	3.98*	4.10	0.37
We should base guidelines only on what has been scientifically proven	2.64	2.58	0.70
<b>Implementation</b>			
I find it helpful to follow accepted guidelines	3.66	3.29	0.0029
I didn't become a GP to practise "cookbook" medicine	2.74	2.37	0.036
<b>Performance-related pay</b>			
I would adopt guidelines if there was a financial reward	2.64*	2.76	0.50
I am worried that guidelines will be used for performance-related pay	3.24	2.86	0.01
<b>Political overtones</b>			
Implementing guidelines will demonstrate my competence as a GP	2.62	2.49	0.35
Guidelines are the first step to GPs losing independent contractor status	3.72	3.16	0.0002

\* Denotes items where RCGP members have lower mean scores than non-RCGP members.

*Performance-related pay.* Significantly fewer college members were worried that guidelines may be used for performance-related pay ( $p = 0.011$ ).

*Political overtones.* College members were less likely to believe guidelines would lead to loss of general practitioners, independent contractor status.

### **Guidelines and general practice trainers**

College members were also more likely to be general practice trainers (26/97 (27%)  $v$  9/115 (8%),  $\chi^2 = 13.8$ ,  $df = 1$ ;  $p = 0.0002$ ). This was not altogether unexpected since college membership is virtually a prerequisite for approval of trainers nowadays. Trainers were also significantly more likely to be younger general practitioners under 45 years of age (78/97 (80%)  $v$  66/114 (58%),  $\chi^2 = 16.2$ ,  $df = 3$ ;  $p = 0.001$ ).

Those trainers who had written guidelines were more positive in ten statements, similar in seven and more negative in three. They were significantly more positive in three statements. They were more likely to agree that 'If I follow accepted guidelines I am less likely to be sued' (115/167 (69%)  $v$  20/40 (50%),  $\chi^2$  for trend = 9.3;  $p = 0.0023$ ) and 'Implementing guidelines will demonstrate my competence as a GP' (36/166 (22%)  $v$  2/40 (5%),  $\chi^2$  for trend = 5.5;  $p = 0.019$ ). They were more likely to disagree that 'Patients are too different for guidelines to be of any use' (106/167 (63%)  $v$  18/40 (45%),  $\chi^2$  for trend = 5.5;  $p = 0.046$ ).

## Comments

There were many comments, both positive and negative, offered by the doctors in this study (see *Table 13*). Examples of positive comments included, “if the majority, at least, agree and follow guidelines then the outcome will be positive” and “guidelines, flow data and protocols help with decision-making when time is limited” or they are “a means of improving standards”. Many of the positive comments were qualified in some way. “Guidelines must be regarded as ‘guidelines’ to assist in patient management rather than ‘rules’ which must be followed”. One general practitioner agreed with the “development of guidelines provided they are supported by audit and not used as a critical tool” and another felt that they were “as good and flexible as the person that uses them”. The negative comments included complaints about the “top down” approach, e.g. guidelines “are often drawn up by medics who are not in full time general practice” or they are “a bureaucratic set of rigid barriers within which we must stay like robots”. Several practitioners believed that guidelines were really only applicable to a few conditions such as diabetes and asthma. A few felt strongly that guidelines detracted from personal care with one doctor stating that “a doctor made his/her own decisions on knowledge, experience and the evidence before him/her at the time.....guidelines seem to me to invalidate this principle” or “because of the diversity of patients’ conditions, I believe guidelines.....are of limited value and may detract from the individual and personal approach which I believe best serves my patients”. One general practitioner stated that “as a small practice we have verbal guidelines”. Doctors who were negative about guidelines expressed their views most strongly. The following comment is perhaps typical. “Protocols increase the risk of litigation, are usually written by people with no earthly idea of what general practice is about (i.e. academics) and unfortunately not every situation and patient can be

pigeonholed like this. There is a place for structured management of well-defined conditions such as diabetes and hypertension and asthma but very little else”.

### **Table 13 Comments to the guidelines questionnaire**

#### *Positive comments*

Less likely to be sued successfully! (Q8)

I find it helpful to take guidelines into consideration. (Q17)

Would not refuse appropriate reward. (Q19)

Guidelines are as good and flexible as the person that uses them.

Useful if developed with hospital consultants. Rye: management of common conditions.

Seems a good idea.

Useful in certain conditions within a practice, e.g. screening procedures, prescribing, URTI's etc. Useful for referral to secondary care.

As long as that is what they are..... I use a lot of them, some practice based, some from lectures, some by myself.

Guidelines are just that they are a guide to good general practice and if couched in suitable terms should pose no threat at all.

“Protocol” is a much better word. Are a means of improving standards.

Good doctors have nothing to fear from structured management plans.

Should be widely circulated even if not “compulsory” for confirmation purposes.

#### *Positive qualified*

I fully support development of guidelines provided they are supported by audit and not used as a critical tool.

If guidelines are well thought out and help with some of the thornier problems, then they are likely to be useful. If they sprout like weeds on every possible topic then they will be ignored.

Guidelines, flow data, and protocols help with decision-making when time is limited. I believe the guidelines suggested are only applicable to certain defined and well understood conditions such as diabetes and hypertension and it is important that their limited use be realised.

Medicine is an art. Guidelines may help in the clinical situation but GPs must retain their right to treat patients as they see them for guidelines are often drawn up by medics who are not in full time general practice.

Standard medical practice means to me the broad guidelines within which I hope to be working. We all use a set pattern of investigations to work through our differential diagnosis and I feel a generally accepted logical set of principles of treatment to be the way to progress, not a bureaucratic set of rigid barriers within which we must stay like robots, e.g. some EEC regulations.

If guidelines are followed sensibly it would improve level of general practice. In short too much of anything could be dangerous.

We are currently using the concept of “referral protocols” to negotiate a differential for outpatient referrals?

They must be regarded as “guidelines” to assist in patient management rather than “rules” which must be followed.

They should be a guide, not fixed, kept simple and very short, presented in a pocket size form (diary size) which is attractive or it will not be used.

### Negative

May increase the risk to those who ignore them. (Q11)

For people not using them. (Q11)

But not guidelines. (Q20)

Should read 'Guidelines should be flexible to suit the needs of individual patients'. (Q10)

Competence as a GP administrator. (Q16)

As a very small practice we have verbal guidelines.

Can be used by anyone to achieve anything without necessarily considering the cost or the outcome. Can be a two edged sword.

Protocols increase the risk of litigation, are usually written by people with no earthly idea of what general practice is about (i.e. academics) and unfortunately not every situation and patient can be pigeonholed like this. There is a place for structured management of well-defined conditions such as diabetes and hypertension and asthma but very little else.

We have, of necessity, adopted guidelines in the form of protocols to enable us to achieve band 3 of the governments health promotion regulations. I qualified in 1960 and was brought up to believe that a doctor made his/her own decisions on knowledge, experience and the evidence before him/her at the time. Guidelines seem to me to invalidate this principle. Fortunately I retire in 9 months time!!!

Don't Care.

Encourage independence: not cloning. Guidelines should be flexible, self constructed. Too many managers and advisors only interested in promoting their own careers. Beware imposition of national criteria useless for very small number of medical scientifically proven usefulness. Big Brother. Big Stick.

If the majority, at least, agree and follow guidelines then the outcome will be positive. If the enthusiastic minority pursue and promote such guidelines the outcome may be counter-productive. In general practice because of the diversity of patients' condition, I believe 'guidelines' protocols and strategies are of limited value and may detract from the individual, personal and hostile approach which I believe best serves my patients.

### Neutral

What does this mean? Popperism or Brownism? (Q2)

What does scientific mean? (Q2)

Depends on topic. Guidelines in general sound good but they are essentially an addition to management rather than a replacement for it. (Q5)

Each GP should feel they have contributed to any guidelines they are asked to follow. (Q3&5)

Not sure if this is pejorative. (Q14)

Demonstrate competence to whom? (Q16)

Sorry, I do not know what this means. Will I get any feedback on this vis a vis consensus attitudes? (Q20)

How much?!!! (Q19)  
 This is a rhetorical statement! (Q20)  
 Yes and no?!! (Q11)  
 These days it does not seem to be relevant why I became a GP as general practice is totally different from when I started! (Q20)  
 But I do not see guidelines as necessarily meaning cookbook medicine. There is a hell of a lot more to the art of practice of medicine than medicines. (Q20)  
 Protocols should be designed for special clinics only.  
 Guidelines need continual monitoring and revision as appropriate to avoid safety initiative.  
 I think many of the statements are a bit too sweeping to have a valuable judgment on them.  
 Total anonymity is not maintained by this form. Any conclusions are therefore invalid especially as MAAG authorises payment of compliant GPs.

### Key to attitude statements

#### Effectiveness

Using well constructed guidelines will improve patient care (Q1)  
 Guidelines would not improve the care I give to my patients (Q7)

#### Clinical freedom

I can exercise my clinical judgement within guidelines (Q6)  
 Guidelines will diminish a GP's clinical freedom (Q4)

#### 'Top down' versus 'bottom up'

Guidelines should be based on what actually happens in general practice (Q3)  
 GPs shouldn't bother to develop guidelines when national guidelines exist (Q5)

#### Scientific basis

Good practice is not always 'scientific' (Q2)  
 We should base guidelines only on what has been scientifically proven (Q9)

#### Litigation

If I follow accepted guidelines I am less likely to be sued successfully (Q8)  
 Adopting guidelines will increase the risk of litigation (Q11)

#### Performance-related pay

I would adopt guidelines if there was a financial reward (Q19)  
 I am worried that guidelines will be used for performance-related pay (Q15)

#### Implementation

I find it helpful to follow accepted guidelines (Q17)  
 I didn't become a GP to practice 'cookbook' medicine (Q20)

#### Innovation

Guidelines help doctors to work in the same way (Q14)  
 Guidelines stifle innovation (Q12)

#### Patients as individuals

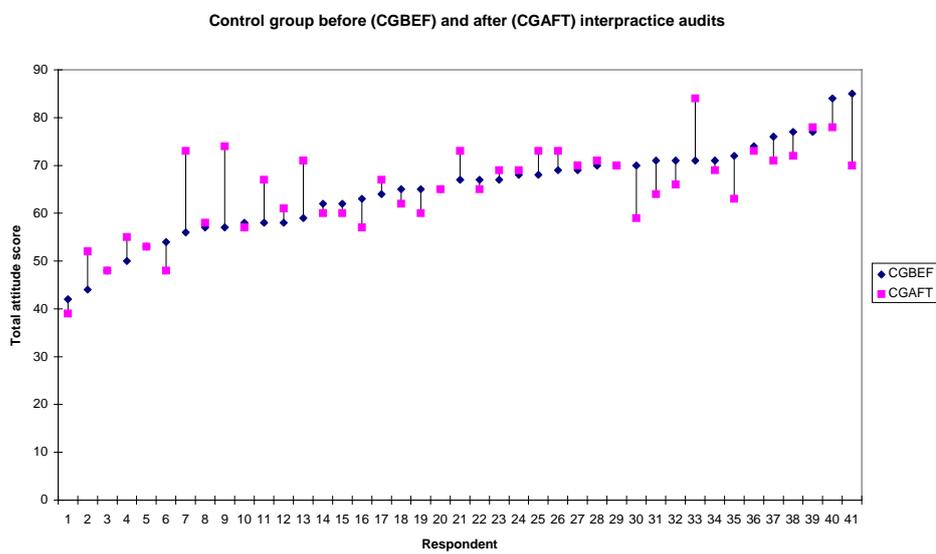
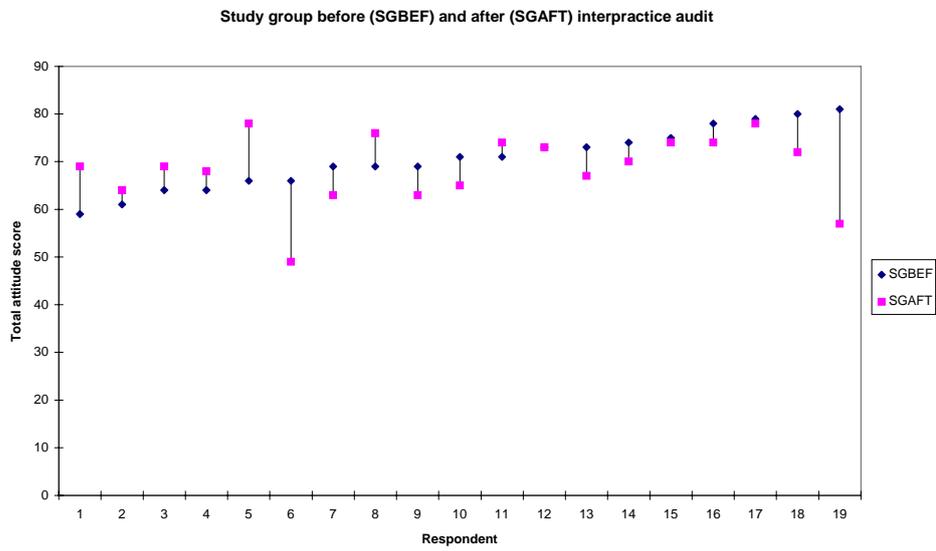
Guidelines can be used flexibly to suit the needs of individual patients (Q10)  
 Patients are too different for guidelines to be of any use (Q13)

#### Political overtones

Implementing guidelines will demonstrate my competence as a GP (Q16)  
 Guidelines are the first step to GPs losing independent contractor status (Q18)

**The effect of participating in an inter-practice diabetic audit on attitudes towards guidelines**

**Figure 10 Total attitude scores in study and control groups before and after inter-practice audit**



**Table 14 Sample statistics for control group before (CGBEF) and after (CGAFT) inter-practice audit and study group before (SGBEF) and after (SGAFT) inter-practice audit**

	<i>CGBEF</i>	<i>CGAFT</i>	<i>SGBEF</i>	<i>SGAFT</i>
Count	41	41	19	19
Response rate	n/a	54	n/a	66
Mean	64.73	65.04	70.63	68.58
Standard Error	1.51	1.43	1.46	1.68
Median	67	67	71	69
Mode	71	73	69	74
Standard Deviation	9.67	9.18	6.36	7.34
Sample Variance	93.55	84.35	40.47	53.92
Kurtosis	0.14	0.54	-0.76	1.48
Skewness	-0.31	-0.64	-0.05	-1.08
Range	43	45	22	29
Minimum	42	39	59	49
Maximum	85	84	81	78

The general practitioners in the study and control groups had all completed the guidelines questionnaire in 1994. The study group consisted of general practitioners who participated in the diabetic inter-practice audit in 1994/5 but not previously, whereas those in the control group had never taken part in this audit. Total attitude scores were calculated by adding scores for each attitude statement from each respondent after reversing the scores for positive statements, so that a higher score meant a more positive attitude to guidelines. If participating in inter-practice audits does lead to a more positive attitude towards guidelines then one would have expected a significant increase in total attitude score in the study group after the audit and less or no significant change in the control group. From Figure 10 and Table 14 it appeared by inspection that there was little change in attitude score before and after the inter-practice audit in both the study and control groups. The sample statistics confirmed that the total attitude scores did not follow a normal distribution so non-parametric tests were used to compare the matched pairs of scores from the study and

control groups. The sign test and Wilcoxon's matched-pairs signed rank test were used for this analysis using SPSS. These tests confirmed that there was no significant difference in the study or control groups before or after the inter-practice audit was completed (*see Table 15*). Total attitude scores were generally higher in the study group suggesting that those practices which participated in the inter-practice audit tended to have doctors who were more positive to the idea of guidelines in any case. Although the results seemed to show that participation in audit does not lead to a more positive attitude towards guidelines they must be interpreted with caution because of confounding. Many of the general practitioners in the study and control group had participated previously in other inter-practice audits organised by the MAAG including audits on asthma, hypertension and depression. Several general practitioners were not sure whether they participated in the inter-practice audit or not and responded incorrectly. Other indirect factors such as the concerns about general practitioner's out-of-hours commitment and reaccreditation may have led to negative more views about the introduction of yet another change in the form of guidelines.

**Table 15 Non-parametric tests comparing study and control groups**

***Sign test comparing control and study groups before and after inter-practice audit***

Sign test comparing control group before (CGBEF) with control group after (CGAFT)

19	- Differences (CGAFT less than CGBEF)
18	+ Differences (CGAFT greater than CGBEF)
4	Ties
41	Total

Z = 0.00                      2-Tailed P = 1.00

Sign test comparing study group before (SGBEF) with study group after (SGAFT)

11	-Differences (SGAFT less than SGBEF)
7	+Differences (SGAFT greater than SGBEF)
1	Tie
19	Total

2-Tailed P = 0.48

***Wilcoxon matched-pairs signed rank test comparing control and study groups before and after inter-practice audit***

Wilcoxon matched-pairs signed rank test comparing control group before (CGBEF) with control group after (CGAFT)

Mean Rank	Cases
19.0	19 - Ranks (CGAFT less than CGBEF)
19.0	18 + Ranks (CGAFT greater than CGBEF)
	4 Ties (CGAFT equals CGBEF)
	41 Total

Z = -0.14                      2-Tailed P = 0.89

Wilcoxon matched-pairs signed rank test comparing study group before (SGBEF) with study group after (SGAFT)

Mean Rank	Cases
9.64	11 - Ranks (SGAFT less than SGBEF)
9.29	7 + Ranks (SGAFT greater than SGBEF)
	1 Tie (SGAFT equals SGBEF)
	19 Total

Z = -0.89                      2-Tailed P = 0.37

## **DISCUSSION**

It has been previously surmised that there are widely differing attitudes towards clinical guidelines in this country (Delamothe 1993). Much of this speculation may have arisen from the negative experience of guidelines abroad, especially in the United States, rather than in this country. Very little is known about current beliefs and practices with regard to guidelines in British general practice which has a strong tradition of independence and where there may have been less exposure to guidelines.

### **Limitations of the study**

With a response rate to the survey of 65.3% and because the sample was restricted to Lincolnshire general practitioners there may have been selection bias, reducing the generalisability of the results. The response rate did, nevertheless, compare favourably with other published surveys of British general practitioners (Sibbald et. al 1994) and respondents did closely match non-respondents for demographic characteristics such as age, gender and partnership size. Apart from minor differences, the respondents were similar to general practitioners in comparable surveys across Britain with respect to these characteristics (GMSC 1992) as well as membership of the Royal College of General Practitioners (RCGP 1994). Widening the study to involve a random sample of all British general practitioners would have been necessary in order to extrapolate the results to the rest of the country. This was not feasible within the resources of this study. Moreover, there is no obvious reason why the beliefs of Lincolnshire general practitioners should be very different from those in other areas of the country.

The questionnaire did not distinguish between expert systematically-derived and local practice-based guidelines although attitudes towards these may differ and there may have been confusion in some respondents' minds between the two. Little is known about the content of practice-based guidelines from this survey or elsewhere although it is unlikely that there is sufficient time or resources for their systematic development in primary care.

The low rate of non-response for individual questions and the additional comments, that accorded well with the attitude statements presented, suggested that no major issue had been missed. The effect of guidelines on cost may have been an issue but was not included. A qualitative study may have been a less biased way of exploring these beliefs but would have been more costly in terms of data collection and analysis.

#### **Current use of guidelines**

Perhaps surprising is the finding that 78.4% of responding general practitioners had produced in-house guidelines. The figure may have been exaggerated by the requirements for health promotion in the New Contract where funding was dependent on practice guidelines approved by Family Health Services Authorities. This may not be the whole explanation since audit has never been a contractual obligation for individual general practitioners and yet had been voluntarily undertaken by 92.0% of principals in the study.

### **Attitudes to guidelines**

Another explanation, supported by the findings presented here, may be that general practitioners feel largely positive towards guidelines. The findings were similar to those for national guidelines for general practitioners in the Netherlands (Grol 1990) and internists in the United States (Tunis et al. 1994) even though the experience of these doctors may be very different from family doctors in this country. Most respondents believed guidelines to be effective in improving care. They also believed guidelines were useful in delivering personal care flexibly but in a consistent way. This may be particularly true for larger group practices where there is more likely to be specialisation and delegation of tasks within the primary care team. Most general practitioners did not believe that autonomy would suffer or that guidelines would open the floodgates of litigation. The most common 'negative' beliefs were that guidelines should be based only on what has been scientifically proven (50.7%), that doctors did not become general practitioners to practice 'cookbook' medicine (43.7%), a concern that guidelines may be used for performance-related pay (31.0%) and that they may diminish freedom (25.8%) or stifle innovation (25.4%). The other negative beliefs were supported by less than a quarter of respondents.

### **Role of membership of the Royal College of General Practitioners**

College membership was associated with a more positive attitude to guidelines. The well-publicised activity of the college in promoting guidelines may have influenced members' beliefs (RCGP 1995). Alternatively, doctors who are more positive towards guidelines may be more likely to seek and achieve college membership. These results

endorse the college's role in developing, implementing and evaluating guidelines in primary care.

### **The relationship between guidelines and medical audit**

There was also a strong association between guideline writing and audit activity. Perhaps this is not surprising since the development of guidelines is a natural extension, if not an integral part of medical audit (Richardson 1991). The audit cycle requires the establishment of criteria and standards against which performance can be measured (Donabedian 1966). Criteria and standards are essential elements for evaluating and measuring change in this process (Donabedian 1986). These elements may be adopted by the participants as a guideline for good practice at the outset or may later be developed into one. Standard setting in audit is of necessity based on at best an explicit, or at worst an implicit guideline and many audits are based on measuring care against established guidelines. It has also been suggested that the use of guidelines in medical audit may increase their uptake (Marinker 1991) and that it may be mutually beneficial to “integrate the ‘guideline industry’ with the medical audit initiative” (Littlejohns et al. 1992). Finally, the improvements in practice that are the goal of medical audit are often implemented as guidelines (Bunker 1994). This study did not demonstrate that attitudes towards guidelines were improved as a result of participation in an inter-practice audit of diabetes care but this may have been due to confounding factors.

### **Medical science versus clinical art**

The ambivalence towards guidelines is partly explained by the concept of the 'indeterminacy/technicality ratio' (Jamous and Peloille 1970). 'Technicality' in this sense means scientific truth, rationality and evidence whilst 'indeterminacy' is synonymous with uncertainty, interpretation, experience, judgement and individualisation.

The specialised knowledge of the doctor, based on scientific evidence and the clinical art of everyday practice, may in theory be broken down into its component parts, rationalised, codified and developed into guidelines. The tasks defined by the guideline may be carried out by others, such as practice nurses as has already occurred in the case of miniclinics for diabetes and asthma.

On the one hand 'technicality' or evidence-based care, for example in the form of clinical guidelines, by promoting the rational application of knowledge will enhance the general practitioner's professionalism in the eyes of his peers and ultimately of the patient. On the other hand the potential de-skilling effect of guidelines can be a threat to professionalism. This threat is threefold. Firstly it encourages external control by those who think they know best and therefore a loss of autonomy. Many of the scientific advances in medicine have not been achieved by general practitioners or clinicians but by scientists and researchers in medicine and allied fields. The general practitioner is often the last to hear of advances and innovations in the vast biomedical literature. 'Top down' or expert guidelines are often arrived at without input from the person who has to use them, in this case the general practitioner. Secondly it tends to

cause fragmentation of the profession into subspecialties because of the ever increasing knowledge and skills which the practitioner has to acquire being divided amongst doctors in group practices. Thirdly it allows other professionals with an interest in smaller areas of this knowledge or skills-base to take over general practitioner's role such as has occurred with counselling in primary care.

This process has also been termed proletarianisation or de-professionalisation.

'Indeterminacy' or uncertainty is also a double edged sword. Complete uncertainty as to diagnosis or management of a particular condition will not usually enhance the patient's opinion of their doctor. If the patient's knowledge is equal to the doctor's then also the doctor clearly becomes less useful or even irrelevant. Alternatively, uncertainty may be a positive asset to the general practitioner in terms of improving professional standing with the patient or other professionals in the following way. Uncertainty is and will continue to be an enduring feature of clinical practice - grey zones abound in medicine and will increase rather than decrease as advances are incorporated into clinical strategies with "chains of conditional probabilities that link sequences of tests, treatments and outcomes" (Naylor 1995). The family doctor's tacit knowledge and experience of the patient in interpreting symptoms and individualising care are part of the mystique and art of general practice. Where many treatment options exist, often achieving similar outcomes, the doctor's skill in eliciting the patient's preferred option is paramount. Uncertainty allows us to use our judgement and exercise our clinical autonomy. Guidelines themselves often contain an element of uncertainty when they are based on consensus rather than evidence. They also have to be adapted to local needs and services (the 'bottom-up' approach), and be applied to the right patient, at the right time and in the right way.

As Naylor (1995) wrote recently in the Lancet paraphrasing Osler, “good clinical medicine will always blend the art of uncertainty with the science of probability”.

### **Control within the doctor-patient relationship**

The other paradigm for looking at how we as general practitioners view guidelines is at the level of control (Turner 1987). Control may be exerted on the general practitioner at the level of the patient (consumer power or patronage), his peers through the activity of partnerships and professional organisations (collegiate control) and finally through government, either directly or through Health Authorities.

Guidelines are becoming available to patient groups, most notably the British Diabetic Association (1993) and consumers are being empowered to demand certain standards of health care and various options for treatment based on publicly available guidelines.

Guidelines, protocols and formularies are often used as educational or administrative tools within partnerships and are recognised as quality markers for Fellowship by Assessment of the Royal College of General Practitioners (Pringle 1995).

Finally, the government have suggested the quality improvements should come about through purchasers specifying standards within the contracting process (Mawhinney 1993) and although general practitioners are currently purchasers it seems likely that

general medical services will eventually be purchased with quality specifications in the same way.

### **Future research**

Little is known about the content or validity of practice-based guidelines, the degree to which practitioners comply with them or the actual benefits, in terms of patient outcomes, in the setting of primary care and these could be areas for future study. Attitudes and behaviour towards systematic, research-based guidelines may differ from those towards guidelines developed by general practitioners in their own practices and as systematic and national guidelines become more common the different perceptions of family doctors to these may be investigated. Attitudes may change if general practitioners become contractually obliged to follow guidelines developed outside their own practices. Different methods of implementation of guidelines may affect attitudes to and acceptance of guidelines. These questions may be the subject of further enquiry.

## **CONCLUSIONS**

This survey suggests that practice-based guidelines are widely used in primary care. This use is largely sustained by positive beliefs amongst general practitioners about their benefits to patient care. The notion that widespread negative attitudes towards guidelines may have adversely affected their implementation is not supported by the findings here but this may only be true for non-systematic practice-based guidelines. The most important concern was about the scientific validity of guidelines, although many doctors conceded that good practice is not always scientific. Misgivings about ‘cookbook’ medicine, target payments, reduced clinical freedom and stifling of innovation were fears of a significant minority of respondents. Local “ownership” of guidelines is an important issue for general practitioners despite suggestions that this may not influence adherence to them in practice (Feder 1994). This survey did not look at how general practice guidelines were arrived at, nor their content or validity and this may be an area for future study. The strong association between guidelines and audit suggests that one way of implementing guidelines may be through their use in clinical audit. It was not possible to demonstrate that participation in an inter-practice audit leads to a more positive attitude towards guidelines.

## **ACKNOWLEDGEMENTS**

I would like to thank the following:-

Professor Mike Pringle, Department of General Practice, The Medical School, Nottingham, for his supervision, guidance and advice during this research.

Dr. Roland Petchey, Lecturer, also at Nottingham for conveying his enthusiasm for qualitative research in general practice.

The Lincolnshire general practitioners who kindly gave of their time to complete the questionnaire.

Sheila Teasdale, Audit Administrator and Tracy Gibson, Audit Secretary, Lincolnshire MAAG for their help with questionnaire distribution and data entry.

The Royal Society of Medicine for funding the project.

Caroline, my wife, for her unstinting support and encouragement.

Ishani, my daughter, for constantly reminding me about the priorities in life.

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## **APPENDIX 1**

### *AIMS OF THE STUDY*

To investigate general practitioners' attitudes to clinical guidelines.

To investigate whether participation in audit has any effect on general practitioners' attitudes to clinical guidelines.

### *HYPOTHESIS*

General practitioners who have recently participated in an interpractice audit of diabetes have a more positive attitude to clinical guidelines

### *VARIABLES*

Independent variable: General practitioners attitudes to clinical guidelines

Operationalisation: Specifically designed self-administered postal questionnaire

Dependent variable: Audit (interpractice)

Operationalisation: Interpractice audit of diabetes care organised by Lincolnshire  
Medical Audit Advisory Group

## APPENDIX 2

Dr A N Siriwardena  
Lincolnshire MAAG  
PO Box 206  
Lincoln, LN4 2JE  
15th February 1994.

Dear Colleague,

### **Attitudes to Clinical Guidelines in General Practice**

I am currently undertaking a research project on the attitudes of general practitioners in Lincolnshire towards clinical guidelines and would be grateful for your help. This work is being done partly through the Department of General Practice at Nottingham University and partly through my role with Lincolnshire MAAG.

A guideline is a “statement designed to assist decision-making about appropriate care for a specified clinical condition”. As you probably know guidelines are being advocated as a way of improving patient care. Various organisations, including the MAAG may have a role in devising guidelines. Our attitudes to guidelines will be a major factor in determining whether we implement or follow them.

I have devised a short questionnaire which should take five to ten minutes to complete. I will feed back the results of the survey to all those who participate as soon as they are available.

I hope you find the questionnaire interesting. Thank you again for your valuable time and help.

Yours faithfully,

Dr Niroshan Siriwardena

### APPENDIX 3 (i)

#### **Guidelines Questionnaire**

*The following statements all express opinions about guidelines.*

*Please circle your level of agreement for each statement:*

*1 means strong agreement  
and 5 means strong disagreement*

- |    |  |   |   |   |   |   |
|----|--|---|---|---|---|---|
| 1  | Using well-constructed guidelines will improve patient care                      | 1 | 2 | 3 | 4 | 5 |
| 2  | Good practice is not always 'scientific'   | 1 | 2 | 3 | 4 | 5 |
| 3  | Guidelines should be based on what actually happens in my practice               | 1 | 2 | 3 | 4 | 5 |
| 4  | Guidelines will diminish a GP's clinical freedom                                 | 1 | 2 | 3 | 4 | 5 |
| 5  | GP's shouldn't bother to develop local guidelines when national guidelines exist | 1 | 2 | 3 | 4 | 5 |
| 6  | I can exercise my clinical judgement within guidelines                           | 1 | 2 | 3 | 4 | 5 |
| 7  | Guidelines would not improve the care I give to my patients                      | 1 | 2 | 3 | 4 | 5 |
| 8  | If I follow accepted guidelines I am less likely to be sued                      | 1 | 2 | 3 | 4 | 5 |
| 9  | We should base guidelines only on what has been scientifically proven            | 1 | 2 | 3 | 4 | 5 |
| 10 | Guidelines can be used flexibly to suit the needs of individual patients         | 1 | 2 | 3 | 4 | 5 |
| 11 | Adopting guidelines will increase the risk of litigation                         | 1 | 2 | 3 | 4 | 5 |
| 12 | Guidelines stifle innovation   | 1 | 2 | 3 | 4 | 5 |
| 13 | Patients are too different for guidelines to be of any use                       | 1 | 2 | 3 | 4 | 5 |
| 14 | Guidelines help doctors to work in the same way                                  | 1 | 2 | 3 | 4 | 5 |
| 15 | I am worried that guidelines will be used for performance-related pay            | 1 | 2 | 3 | 4 | 5 |
| 16 | Implementing guidelines will demonstrate my competence as a GP                   | 1 | 2 | 3 | 4 | 5 |
| 17 | I find it helpful to follow accepted guidelines                                  | 1 | 2 | 3 | 4 | 5 |
| 18 | Guidelines are the first step to GPs losing independent contractor status        | 1 | 2 | 3 | 4 | 5 |
| 19 | I would adopt guidelines if there was a financial reward                         | 1 | 2 | 3 | 4 | 5 |
| 20 | I didn't become a GP to practise 'cookbook' medicine                             | 1 | 2 | 3 | 4 | 5 |

Any other comments?

**APPENDIX 3 (ii)**

***Guidelines Questionnaire (cont.)***

*Please tick all responses which apply to you personally*

Are you:

Male

Female

Aged 25-34

Aged 35-44

Aged 45-54

Aged over 54

A member or fellow of the RCGP

Have you carried out audit(s) within your practice:

Individually?

With others in the practice team?

Not at all ?

Have you written guidelines for patient care in your practice:

Individually?

With others in the practice team?

Not at all ?

*Thank you for taking the time to complete this questionnaire.*

***Please return in the attached envelope to Dr AN Siriwardena,  
Lincolnshire MAAG, PO Box 206, Lincoln, LN4 2JE, by 15th March 1994.***

## APPENDIX 4

Dr A N Siriwardena  
Lincolnshire MAAG  
PO Box 206  
Lincoln, LN4 2JE.  
20th September 1994.

Dear Colleague,

re: **Attitudes to Clinical Guidelines in General Practice**

I am currently undertaking a research project on the attitudes of general practitioners in Lincolnshire towards clinical guidelines and would be grateful for your help. This work is being done partly through the Department of General Practice at Nottingham University and partly through my role with Lincolnshire MAAG.

A guideline is a “statement designed to assist decision-making about appropriate care for a specified clinical condition”. As you probably know guidelines are being advocated as a way of improving patient care. Various organisations, including the MAAG may have a role in devising guidelines. Our attitudes to guidelines will be a major factor in determining whether we implement or follow them. A preliminary investigation showed that there are a wide range of attitudes, both positive and negative towards guidelines.

I have devised a short questionnaire which should take less than five minutes to complete. The questionnaire was piloted last year and has been improved upon since then. I will feed back the results of the survey to all those who participate as soon as they are available.

I hope you find the questionnaire interesting. Thank you again for your valuable time and help.

Yours Faithfully

Dr Niroshan Siriwardena

**APPENDIX 5 (i)**

***Guidelines Questionnaire***

*The following statements all express opinions about guidelines.*

*Please **circle** your level of agreement for each statement:*

***1 means strong agreement, 3 means neutral  
and 5 means strong disagreement***

- |    |  |   |   |   |   |   |
|----|--|---|---|---|---|---|
| 1  | Using well-constructed guidelines will improve patient care                      | 1 | 2 | 3 | 4 | 5 |
| 2  | Good practice is not always 'scientific'   | 1 | 2 | 3 | 4 | 5 |
| 3  | Guidelines should be based on what actually happens in general practice          | 1 | 2 | 3 | 4 | 5 |
| 4  | Guidelines will diminish a GP's clinical freedom                                 | 1 | 2 | 3 | 4 | 5 |
| 5  | GP's shouldn't bother to develop local guidelines when national guidelines exist | 1 | 2 | 3 | 4 | 5 |
| 6  | I can exercise my clinical judgement within guidelines                           | 1 | 2 | 3 | 4 | 5 |
| 7  | Guidelines would not improve the care I give to my patients                      | 1 | 2 | 3 | 4 | 5 |
| 8  | If I follow accepted guidelines I am less likely to be sued successfully         | 1 | 2 | 3 | 4 | 5 |
| 9  | We should base guidelines only on what has been scientifically proven            | 1 | 2 | 3 | 4 | 5 |
| 10 | Guidelines can be used flexibly to suit the needs of individual patients         | 1 | 2 | 3 | 4 | 5 |
| 11 | Adopting guidelines will increase the risk of litigation                         | 1 | 2 | 3 | 4 | 5 |
| 12 | Guidelines stifle innovation   | 1 | 2 | 3 | 4 | 5 |
| 13 | Patients are too different for guidelines to be of any use                       | 1 | 2 | 3 | 4 | 5 |
| 14 | Guidelines help doctors to work in the same way                                  | 1 | 2 | 3 | 4 | 5 |
| 15 | I am worried that guidelines will be used for performance-related pay            | 1 | 2 | 3 | 4 | 5 |
| 16 | Implementing guidelines will demonstrate my competence as a GP                   | 1 | 2 | 3 | 4 | 5 |
| 17 | I find it helpful to follow accepted guidelines                                  | 1 | 2 | 3 | 4 | 5 |
| 18 | Guidelines are the first step to GPs losing independent contractor status        | 1 | 2 | 3 | 4 | 5 |
| 19 | I would adopt guidelines if there was a financial reward                         | 1 | 2 | 3 | 4 | 5 |
| 20 | I didn't become a GP to practise 'cookbook' medicine                             | 1 | 2 | 3 | 4 | 5 |



## APPENDIX 6

MAAG

Dear Colleague,

### **Attitudes to Clinical Guidelines in General Practice**

I recently wrote to you about a research project that I am currently undertaking on the attitudes of general practitioners in Lincolnshire towards clinical guidelines. There has been a good response (around 55%) so far but I would be grateful for your help to improve on this and make the results more representative. I do appreciate the pressures on your time but feel that this is an area of concern and importance for general practitioners.

Guidelines are “statements designed to assist decision-making about appropriate care for a specified clinical condition”. As you probably know guidelines are being advocated as a way of improving patient care. Various organisations, including the MAAG may have a role in devising guidelines. Our attitudes to guidelines will be a major factor in determining whether we implement or follow them. A pilot study showed that there are a wide range of attitudes, both positive and negative towards guidelines.

I have devised a short questionnaire which should take five to ten minutes to complete. I will feed back the results of the survey to all those who participate as soon as they are available.

This work is being done through the Department of General Practice at Nottingham University and partly through my role with Lincolnshire MAAG. The work has also recently been supported by a bursary from the Royal Society of Medicine. My sincere thanks again for your valuable time and help.

Yours faithfully

Dr Niroshan Siriwardena

Dr A N Siriwardena  
Lincolnshire

PO Box 206  
Lincoln, LN4 2JE.  
1st November 1994.

## APPENDIX 7

Dr A N Siriwardena  
Lincolnshire

MAAG

PO Box 206  
Lincoln, LN4 2JE.  
1st November 1994.

Dear colleague,

I recently sent you a questionnaire on attitudes of Lincolnshire general practitioners to clinical guidelines. May I take this opportunity to thank you for participating in this survey. I promised that I would feed back the results of the survey and presented here is an outline of the findings.

There were two main aims in conducting the survey, which was intended to be a pilot study. Firstly, I was interested in getting a 'feel' for attitudes in the county to guidelines. Secondly, I hope to explore the relationship between medical audit and guidelines. Does participation in audit promote a more positive attitude to guidelines and encourage their use in practice?

Clinical guidelines are "systematically developed statements which assist in decision making about appropriate health care for specific clinical conditions". There is a widespread trend to adopt guidelines for use in both primary and secondary care as part of the quality initiative. Apparently we general practitioners, and our hospital colleagues, often fail to follow established guidelines despite some evidence that they improve clinical practice. In discussions in the literature of the problems and possible solutions to implementing guidelines in primary care it has been found that a doctor's personal characteristics, competence, motivation and *attitudes* are important barriers to the effective use of guidelines. In the Netherlands there has been found a generally positive attitude to national standards for care but with significant reservations. The use of guidelines to contain costs and reduce litigation in the United States may have given rise to some negative attitudes to guidelines across the Atlantic, which may have had some knock-on effect in the United Kingdom. Development of guidelines is seen by some as a natural extension of medical audit, as standard setting in audit is of necessity based on, at best an explicit or at worst an implicit guideline. It has also been suggested that the use of guidelines in medical audit may increase their uptake.

From preliminary informal discussions with general practitioner colleagues and a review of the literature it appeared that there may be widely differing views and attitudes towards clinical guidelines in this country. These attitudes, both positive and negative, I have expressed under the following broad categories :

- (1) Effectiveness of guidelines
- (2) Clinical freedom
- (3) 'Top down' ( expert or national ) versus 'bottom up' ( practice-based or local )
- (4) Scientific basis
- (5) Effect on litigation
- (6) Use in determining performance-related pay and cost-effectiveness
- (7) Implementation of guidelines that have been adopted
- (8) Effect on innovation and development
- (9) Patients as individuals
- (10) Political overtones

The questionnaire that I sent you included twenty positive and negative statements under each of these categories so as not to influence you to respond in a particular direction. The survey was sent to selected GPs who were participating in the interpractice audit of diabetes.

There were 75 replies to the 114 questionnaires sent (a response rate of 66%). A statistical test for test-retest reliability showed that the questionnaire was 'reliable'. I found overall that attitudes to guidelines were more positive than negative. There were some interesting comments and observations from you on the questionnaire for which I am very grateful. There was no consistent relationship between age or sex and attitudes to guidelines.

Members of the RCGP, in general, had a more positive attitude to guidelines which may be due to the positive action of the RCGP in promoting guidelines as part of their quality initiative or it may reflect the type of doctor who sits the MRCGP. In 4 out of the 20 attitude statements RCGP members were significantly more positive and in 10 of the remaining 16 statements they also demonstrated a more positive attitude but without statistical significance.

GPs who had written guidelines in their practice also had a broadly more positive attitude to clinical guidelines, again as one might expect. In particular, those who had written guidelines

were significantly less threatened by a loss of clinical freedom that may ensue from using guidelines. They were also more positive in 12 of the remaining attitude statements but these responses were not significantly different.

Finally, all of you who had written guidelines had also carried out or participated in audit in your practice compared to 80% of those who had not written guidelines. The magnitude of these differences was not great, partly because I selected a group of GPs who were likely to be more positive towards audit (by virtue of participating in one).

In their recent booklet, "The evolution of clinical audit", the NHS management executive emphasised how audit may be used to improve compliance with guidelines. The challenge for us in the MAAG will be to introduce and assess the effectiveness of clinical guidelines without dictating clinical practice and also continuing to ensure our autonomy as general practitioners.

This work was done partly in my capacity as an audit ambassador and also as part of a Master's Degree in Primary Health Care at the University of Nottingham, Department of General Practice. May I thank Sheila Teasdale and the staff of the MAAG for their invaluable help in conducting this survey. My thanks also to Professor Pringle for his comments and guidance. Finally may I thank again all of you who gave of your time to participate.

Yours faithfully

Dr A N Siriwardena

## **APPENDIX 8**

Dr A N Siriwardena  
Lincolnshire MAAG  
PO Box 206  
Lincoln, LN4 2JE.

Dear Colleague,

### **Attitudes to Clinical Guidelines in General Practice**

You recently took time to respond to a questionnaire survey on your attitudes towards clinical guidelines. The research project on this subject is still in progress and is being conducted through the Department of General Practice at Nottingham University and partly through my role with Lincolnshire MAAG.

A guideline is a “statement designed to assist decision-making about appropriate care for a specified clinical condition”. You may have participated in the recent inter-practice audits on diabetes, asthma or hypertension. Using the results as a starting point it may be possible to develop local guidelines for the management of these conditions for Lincolnshire general practice.

I would be grateful if you would repeat the questionnaire at this stage to see whether your views have changed significantly. This should take about five minutes to complete. Please could you return the completed questionnaire in the envelope provided via the Lincolnshire Health bag to me at the MAAG as soon as possible. As always the replies will be treated in the strictest confidence.

May I thank you again for your valuable help so far. The study will be completed at the end of July and the overall results circulated to you this Autumn from the MAAG.

Yours faithfully,

Dr Niroshan Siriwardena  
Audit Ambassador

**APPENDIX 9 (i)**

**Guidelines Questionnaire**

The following statements all express opinions about guidelines.

Please **circle** your level of agreement for each statement:

*1 means strong agreement, 3 means neutral  
and 5 means strong disagreement*

1	Using well-constructed guidelines will improve patient care	1	2	3	4	5
2	Good practice is not always 'scientific'	1	2	3	4	5
3	Guidelines should be based on what actually happens in general practice	1	2	3	4	5
4	Guidelines will diminish a GP's clinical freedom	1	2	3	4	5
5	GP's shouldn't bother to develop local guidelines when national guidelines exist	1	2	3	4	5
6	I can exercise my clinical judgement within guidelines	1	2	3	4	5
7	Guidelines would not improve the care I give to my patients	1	2	3	4	5
8	If I follow accepted guidelines I am less likely to be sued successfully	1	2	3	4	5
9	We should base guidelines only on what has been scientifically proven	1	2	3	4	5
10	Guidelines can be used flexibly to suit the needs of individual patients	1	2	3	4	5
11	Adopting guidelines will increase the risk of litigation	1	2	3	4	5
12	Guidelines stifle innovation	1	2	3	4	5
13	Patients are too different for guidelines to be of any use	1	2	3	4	5
14	Guidelines help doctors to work in the same way	1	2	3	4	5
15	I am worried that guidelines will be used for performance-related pay	1	2	3	4	5
16	Implementing guidelines will demonstrate my competence as a GP	1	2	3	4	5
17	I find it helpful to follow accepted guidelines	1	2	3	4	5
18	Guidelines are the first step to GPs losing independent contractor status	1	2	3	4	5
19	I would adopt guidelines if there was a financial reward	1	2	3	4	5
20	I didn't become a GP to practise 'cookbook' medicine	1	2	3	4	5



## APPENDIX 10

### *PUBLICATIONS*

- 1      Siriwardena A.N. Guidelines in primary care: a survey of general practitioners' attitudes (original article). *British Journal of General Practice* (in press; submitted 16 January 1995; accepted 27 April 1995).
  
- 2      Siriwardena A.N. (1994) Screening for secondary causes of hyperlipidaemia in general practice. Misdiagnosis may result in litigation (letter). *British Medical Journal* **309**, 1374.